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APPENDIX

TO

Journals of Senate and Assembly,

OF THE

SIXTEENTH SESSION OF THE LEGISLATURE

OF THE

STATE OF CALIFORNIA.

VOLUME III.



SACRAMENTO:

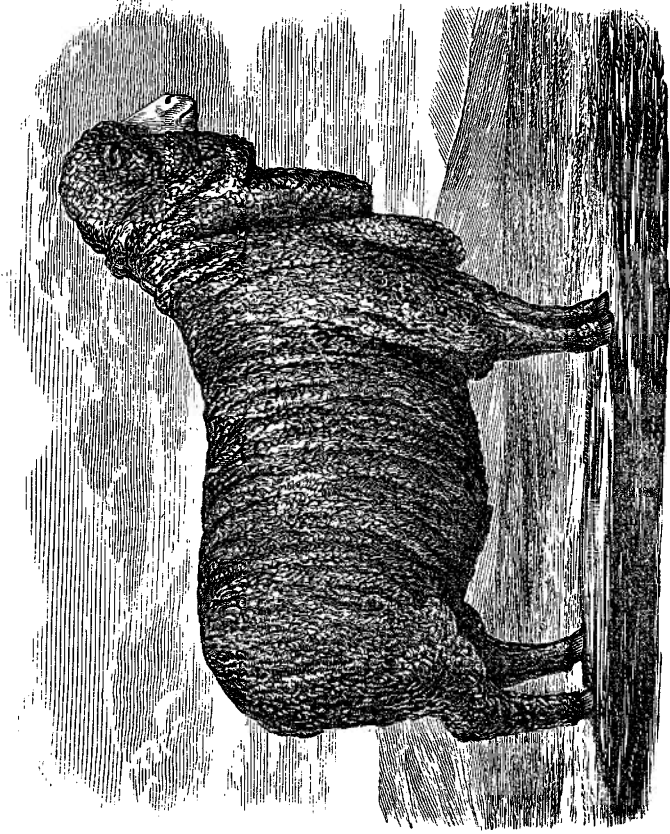
O. M. CLAYES, STATE PRINTER.

1866.

C O N T E N T S .

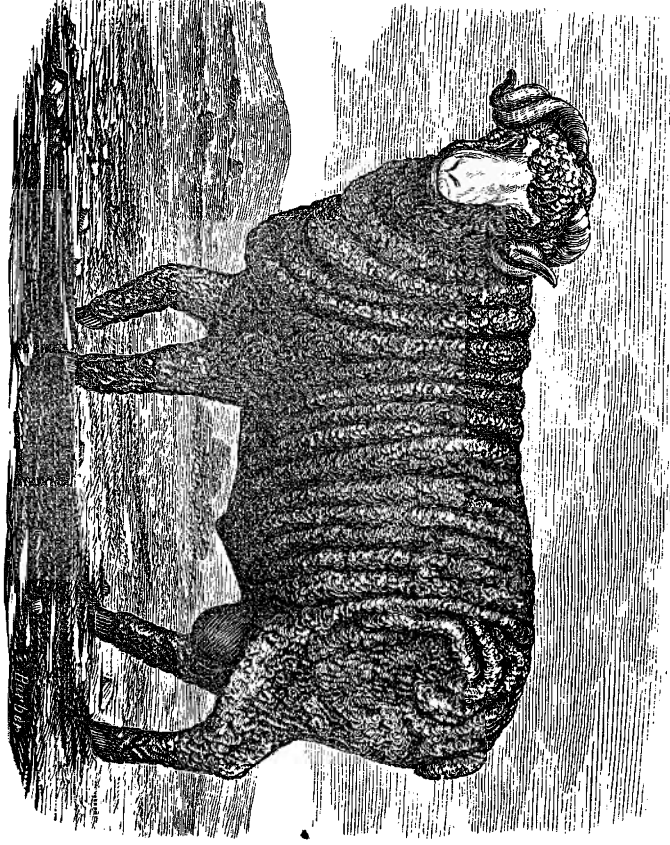
- 1—Transactions of the State Agricultural Society during the years 1864-5.
- 2—Majority and Minority Reports of the Assembly Committee on Elections on the contested election case of Brown v. Frink.
- 3—Minority Report of the Senate Committee on Elections on the contested election case of Murray v. Murphy.
- 4—Majority and Minority Reports of the Assembly Committee on Elections on the contested election case of Johnson v. Kurtz.
- 5—Majority Report of the Senate Select Committee of Investigation on the sale of marsh and tide lands.
- 6—Letter of the State Geologist relative to the progress of the State Geological Survey during the years 1863-4.
- 7—Report of W. E. Lovett, Special Indian Agent, to Austin Wiley, Superintendent of Indian Affairs.
- 8—Report of the Surveyor-General in relation to marsh and tide lands within five miles of the Cities of San Francisco and Oakland.
- 9—Opinion of the Attorney-General relative to tide land locations upon the San Francisco city front, and near Oakland and the State Prison.
- 10—Communication from the Board of State Harbor Commissioners.
- 11—Petition of the Trustees of the California Bible Society.
- 12—Report of the Assembly Judiciary Committee relative to the per diem of members.
- 13—Report of the Assembly Special Committee appointed to visit the State Reform School at Marysville.
- 14—Memorial to Congress in behalf of settlers on lands covered by the Arroyo Seco Grant.
- 15—Report of the Senate Committee on Hospitals on Senate bill No. 309.
- 16—Report of the Assembly Committee on Mines and Mining Interests concerning the State Geological Survey.
- 17—Report of the Assembly Committee on Education relative to the State Reform School, etc.
- 18—Report of the Assembly State Prison Committee.
- 19—Report and Petition of the Sisters of Mercy relative to the Magdalen Asylum.
- 20—Majority and Minority Reports of the Assembly Committee on State Hospitals on Assembly bill No. 226.
- 21—Report of the Senate Committee on Agriculture on Assembly bill No. 321.
- 22—Memorial relative to the Arroyo Seco Grant.
- 23—Report of the Assembly Committee on the Culture of the Grapevine.
- 24—Report of the Assembly Judiciary Committee accompanying Assembly bill No. 500.
- 25—Report of the Assembly Committee on Internal Improvements on Assembly bill No. 321.

- 26—Act of Congress granting to California the Yosemite Valley, and Big Tree Grove, in Mariposa County.
- 27—Correspondence between Governor Fred'k F. Low and Brigadier-General Jas. H. Carleton.
- 28—Report of the Trustees of the Home for the Care of the Inebriate, San Francisco.
- 29—Majority and Minority Reports of the Assembly Judiciary Committee relative to the appeal of F. J. Thibault from the decision of the State Board of Examiners.
- 30—Report of the Disbursing Officers of the Second Brigade, California Militia.
- 31—Message from the Governor concerning certain swamp and overflowed lands in Tulare Valley.
- 32—Certified copy of Resolution of Congress submitting to the several States the amendment of the Constitution of the United States.
- 33—Report from the Honorable Leland Stanford, President of the Central Pacific Railroad Company.
- 34—An Act of the Legislature of Nevada in the matter of the boundary line between Nevada and California.
- 35—Report of the Assembly Judiciary Committee on the Governor's veto of Assembly bill No. 507.
- 36—Memorial from the Legislature of Arizona in the matter of the boundary line between Arizona and California.
- 37—Report of the Investigating Committee on the boundary line between Placer and Nevada Counties.
- 38—Petition of citizens of Alpine County for a Judicial District on the Eastern slope of the Sierra Nevadas.
- 39—Communication of Governor Oglesby, of Illinois, President of the Lincoln National Monument Association.
- 40—Report of the Assembly Committee on Internal Improvements on Assembly bill No. 321.
- 41—Report of a portion of the San Francisco Delegation on Assembly bill No. 130.
- 42—Minority Report of the Senate Committee on Corporations on Senate bill No. 47.
- 43—Report of the select Committee of the Assembly on the explosion of the "Yosemite."
- 44—Communication from the Miners' Convention to the Senate of California.
- 45—Majority Report of the Senate Committee on State Library on Senate bill No. 286.
- 46—Report of the Assembly Judiciary Committee on the Governor's veto of Assembly bill No. 41.
- 47—Communication from the Consul of the Mexican Republic, resident in San Francisco, to Governor Fred'k F. Low.
- 48—Report of the Yolo, Napa, Lake, and Sonoma Delegations on Assembly bill No. 249.
- 49—Report of the Assembly Judiciary Committee on various bills.
- 50—Minority Report of the Assembly Judiciary Committee on Senate bill No. 23.
- 51—Minority Report of the San Francisco Delegation in the Assembly on Assembly bill No. 363.
- 52—Minority Report of the Assembly Committee on Federal Relations recommending adoption of a substitute for Assembly concurrent resolution No. 58.
- 53—Minority Report of the Assembly Committee on State Library on Senate bill No. 42, and Assembly bill No. 261.



MAY QUEEN.

Pure bred Spanish Merino Ewe, imported and owned by THOS. McCONNELL, of Sacramento County, California; took first premium at State Fair in 1885; aged 3 years; shears 15 lbs.



NORTH STAR.

Infantado Ram, bred and owned by THOS. McCONNELL, of Sacramento County, California; sired by Abe Lincoln; age, 9 months.



YOUNG HAROLD.

Property of GEORGE H. HOWARD, El Cerrito, San Mateo.

TRANSACTIONS

OF THE

California State Agricultural Society,

DURING

THE YEARS 1864 AND 1865.



SACRAMENTO:

O. M. CLAYES, STATE PRINTER.

1866.

OFFICERS FOR 1864.

PRESIDENT.

CHARLES F. REED.....Yolo.

DIRECTORS.

Directors whose terms expire in 1865.

R. J. WALSH.....Colusa.
A. G. RICHARDSON.....Sacramento.
WILLIAM P. COLEMAN.....Sacramento.

Directors whose terms expire in 1866.

C. T. WHEELER.....Sacramento.
JOHN H. CARROLL.....Sacramento.
EDGAR MILLS.....Sacramento.

Directors whose terms expire in 1867.

B. R. CROCKER.....Sacramento.
T. L. CHAMBERLAIN.....Placer.
J. J. OWEN.....Santa Clara.

TREASURER.

E. B. RYAN.....Sacramento.

SECRETARY.

I. N. HOAG.....Yolo.

A COMPILATION

OF ALL THE LAWS NOW IN FORCE RELATING TO OR
AFFECTING THE STATE AGRICULTURAL SOCIETY.

AN ACT

TO INCORPORATE A STATE AGRICULTURAL SOCIETY, AND APPROPRIATE
MONEY FOR ITS SUPPORT.

*The People of the State of California, represented in Senate and Assembly,
do enact as follows:*

SECTION 1. There is hereby established and incorporated a society, to be known and designated by the name and style of the "CALIFORNIA STATE AGRICULTURAL SOCIETY," and by that name and style shall have perpetual succession, and shall have power to contract and be contracted with, to sue and be sued, and shall have authority to have and use a common seal, to make, ordain, and establish, and put in execution such by-laws, ordinances, rules, and regulations, as shall be necessary for the good government of said society, and the prudent and efficient management of its affairs; *provided*, that said laws, ordinances, rules, and regulations, shall not be contrary to any provision of this charter, nor the laws and Constitution of this State, or of the United States.

SEC. 2. In addition to the powers above enumerated, the society shall, by its name aforesaid, have power to purchase and hold any quantity of land not exceeding four sections, and may sell and dispose of the same at pleasure. The said real estate shall be held by said society for the sole purpose of establishing a model experimental farm or farms, erecting inclosures, buildings, and other improvements, calculated and designed for the meeting of the society, and for an exhibition of the various breeds of horses, cattle, mules, and other stock, and of agricultural, mechanical, and domestic manufactures and productions, and for no other purposes.

And it is further enacted, That if, from any cause, said society shall ever be dissolved, or fail to meet within the period of two consecutive years, then the real estate held by it, together with all the buildings and appurtenances belonging to said estate, shall be sold as lands are now sold by execution, and the proceeds deposited in the State Treasury, subject to the control of the Legislature.

AN ACT

SUPPLEMENTAL TO AN ACT TO INCORPORATE A STATE AGRICULTURAL SOCIETY, APPROVED MAY THIRTEENTH, EIGHTEEN HUNDRED AND FIFTY-TWO, AND AMENDED MARCH TWENTIETH, EIGHTEEN HUNDRED AND FIFTY-EIGHT.

The People of the State of California, represented in Senate and Assembly, do enact as follows:

SECTION 1. The general prudential and financial affairs of the society shall be intrusted to a Board of Agriculture, to consist of a President and nine Directors, five of whom shall constitute a quorum.

[Amended Section.]

SEC. 2. Said Board of Agriculture shall be elected at a general State Agricultural Convention, to be held at the Capital of the State, in the year one thousand eight hundred and sixty-three, in the month of March, and in the month of January every year thereafter, to consist of the life members and annual members of the State Agricultural Society, and from delegates from each County Agricultural Society within this State incorporated under the general laws of this State for such corporations, and an equal number from each District Agricultural Society also incorporated under the general laws of this State for such purposes; said delegates to be chosen at the annual fair or annual meeting of each such society next preceding the State Agricultural Convention; *provided*, said Convention, to be held in March, in the year one thousand eight hundred and sixty-three, may admit any person or persons representing any of said County or District Agricultural Societies, as the Convention may determine by a majority vote whether such persons shall have been elected by their respective County or District Societies as provided in this Act, or not.

SEC. 3. The Board of Agriculture shall, at its first meeting after its election, be divided by lot into three equal portions, (omitting the President,) one portion to continue in office one year, one portion two years, and one portion three years; one third of the number, together with the President, to be elected at the State Agricultural Convention annually thereafter; the Directors to hold office three years.

SEC. 4. The Board of Agriculture may, in the absence of the President, choose one of its other members Temporary Chairman. They shall elect a Treasurer and Secretary, not members of the Board, prescribe their duties, fix their pay, and the said Treasurer and Secretary shall be subject to removal at any time by a majority of said Board.

SEC. 5. The Board of Agriculture shall use all suitable means to collect and diffuse all classes of information calculated to aid in the development of the agricultural, stock raising, mineral, mechanical, and manufacturing resources of the State; shall hold an annual exhibition of the industry and products of the State; and on or before the first day of January of each year in which the Legislature shall be in regular session, they shall furnish to the Governor a full and detailed account of all its transactions, including all the facts elicited, statistics collected, and information gained on the subject for which it exists; and also a distinct financial account of all funds received from whatever source, and of every expenditure for whatever purpose, together with such suggestions

as experience and good policy shall dictate for the advancement of the best interests of the State; the said reports to be treated as other State documents are.

SEC. 6. The Board of Agriculture shall have power to appoint a suitable number of persons to act as Marshals, who shall be, from twelve o'clock, noon, of the day previous to the opening of the exhibition, until noon of the day after the close of the same, vested with all the powers and prerogatives with which Constables are invested, so far as acts or offences committed within or with reference to or in connection with the exhibition are concerned.

SEC. 7. The Board of Agriculture may, in its discretion, award premiums for the best cultivated farms, orchards, vineyards, gardens, etc.; *provided*, that said Board shall not audit, allow, or pay an amount exceeding one thousand dollars in any one year for travelling expenses of Visiting Committee in examining said farms, et cetera; *provided*, further, that no persons except practical agriculturists shall be appointed on said committees.

SEC. 8. It shall be optional with any to whom a premium is awarded to receive the article named or its equivalent (as affixed) in coin.

SEC. 9. The State Agricultural Society shall have power, at its first annual meeting after the passage of this Act, to make such alterations in its Constitution as shall make it conform to the provisions of this Act.

SEC. 10. All Acts or provisions in conflict with the provisions of this Act are hereby repealed.

SEC. 11. This Act shall take effect from and after its passage.

AN ACT

SUPPLEMENTAL TO AN ACT ENTITLED AN ACT SUPPLEMENTAL TO AN ACT TO INCORPORATE A STATE AGRICULTURAL SOCIETY, APPROVED MAY THIRTEENTH, ONE THOUSAND EIGHT HUNDRED AND FIFTY-FOUR, AND AMENDED MARCH THIRTIETH, ONE THOUSAND EIGHT HUNDRED AND FIFTY-EIGHT, APPROVED MARCH TWELFTH, EIGHTEEN HUNDRED AND SIXTY-THREE.

[Approved April 13th, 1863.]

The People of the State of California, represented in Senate and Assembly, do enact as follows:

SECTION 1. The Board of Directors mentioned in section one of the Act to which this Act is supplemental, shall audit all claims or demands against the State Agricultural Society that have accrued prior to the first day of January, eighteen hundred and sixty-three, and allow such as may be just and proper, and cause their warrants to be drawn on the Treasurer of said society, payable out of the General Fund. Said warrants shall be signed by the President and Secretary of said Board of Directors, and the Treasurer shall pay the same in the order of their presentation, if there be money in said Fund; but if not, then he shall indorse on the back of the warrant, "presented and not paid for want of funds, this — day of —, Anno Domini eighteen hundred and sixty —," and said warrants shall draw interest at the rate of ten per cent per annum from the date of presentation until paid.

SEC. 2. All assets, moneys, and debts, due said society, that accrued prior to the first day of January, eighteen hundred and sixty-three, shall be placed to the credit of the General Fund, for the liquidation of the debts of said society created prior to said first day of January, eighteen hundred and sixty-three, and all moneys received during each fiscal year hereafter shall be placed to the credit of a fund to be known as a Special Fund, for the payment of current expenses, premiums, and awards, for the year in which the same was received, and to liquidate the outstanding indebtedness of said society, as hereinafter provided; and all moneys received from appropriations, donations, or from any other source, and all property acquired, shall be exempt from attachment and execution for any debt or liability other than those created during that fiscal year.

SEC. 3. The Directors shall each year pay all claims or demands, and premiums awarded, before the last day of December, from said Special Fund; and if any money remain in said Special Fund after the liquidation of all claims and demands of that fiscal year, then the Directors shall advertise in some newspaper published in Sacramento, that they will receive proposals for the surrendering of the outstanding warrants against the General Fund, naming the time and place where they will be received and opened. Said Board shall accept the bids that will surrender said warrants for the lowest per cent, until all the money remaining in said fund is expended; and the Board may accept a bid for a part of any warrant, and issue a new warrant for the balance due on such warrant; *provided*, said Directors shall not receive any bid above par, or for any claim or demand that is not presented, allowed, and a warrant drawn, as provided in section one of this Act, within ninety days from the passage of this Act.

SEC. 4. No debt or demand of any kind against said society shall be paid by the Treasurer or any other person, until it shall have first been audited by the Board of Directors, and on a warrant drawn upon the Treasurer, signed by the President and Secretary; and no premium that may have been awarded by any committee shall be paid until it has been approved by the Board of Directors.

SEC. 5. This Act shall take effect and be in force from and after its passage.

CONSTITUTION

OF THE CALIFORNIA STATE AGRICULTURAL SOCIETY.

ARTICLE I.—NAME.

SECTION 1. This society shall be called "The California State Agricultural Society."

ARTICLE II.—OBJECT.

SECTION 1. It shall be the object of this society to encourage the cultivation of the soil, and the general development of all the agricultural resources of this State.

SEC. 2. To foster every branch of mechanical and household arts calculated to increase the happiness of home life.

SEC. 3. To extend and facilitate the various branches of mining and mining interests.

ARTICLE III.—MEMBERSHIP.

SECTION 1. *Annual Members*.—Any person who has, during the year eighteen hundred and sixty-five, or who shall, during this year or any subsequent one, pay into the funds of this society the sum of five dollars, may become a member of the same; such membership to expire on the thirty-first day of the following December.

SEC. 2. *Life Members*.—Any person may become a member for life, by the payment of fifty dollars; or, if already a member, by the payment of forty dollars, and shall thereafter be exempt from all dues and assessments.

SEC. 3. *Honorary and Corresponding Members*.—Any person whom the Board shall propose, may be elected an honorary or a corresponding member, and shall enjoy, free of charge, all the privileges of the society, except voting and holding office.

SEC. 4. *Privileges of Members*.—Any citizen of this State, being a member of this society, shall be eligible to office, entitled to vote, and enjoy the free use of the library, under the rules of the same, and have free

admission, accompanied by the ladies and children of his family, to all the exhibitions of the society, and shall be permitted to compete for premiums in any or all departments.

SEC. 5. *Expulsion of Members.*—Any member who shall present for exhibition any article or animal which he is not entitled by the rules of the society to exhibit, or who shall attempt to deceive, or be guilty of a breach of good faith toward the society, may be expelled by a vote of two thirds of the members present, at any meeting of the society; *provided*, always, that no member shall be expelled unless written notice of the alleged offence shall have been served on him, or left at his usual place of residence, at least twenty days previous to the action.

ARTICLE IV.—OFFICERS.

SECTION 1. The officers of this society shall consist of a President and nine Directors, who shall constitute a State Board of Agriculture, five of whom shall constitute a quorum. They shall elect a Treasurer and Secretary, not members of the Board. They may also appoint annually, as officers of the Board, a chemist, a botanist, a meteorologist, a geologist, a metallurgist, an ornithologist, and an entomologist, and define the duties of each. They may appoint such committees on the various departments of agriculture, mining, and manufactures, either generally or for specific purposes, as they may deem important for the best interests of the State, and require such committees to report the results of their investigations to the Board at such times as may be named by them.

SEC. 2. *Duties of President.*—The President shall preside at all meetings of the Board, and of the society; shall have power to call special meetings of the Board, when necessary, and at the written request of ten members, may call extra meetings of the society; shall appoint all meetings not otherwise provided for; shall vote only at the election of officers, and in a case of a tie; and shall sign all financial and official documents emanating from the society not otherwise provided for. In the absence of the President from any meeting of the Board or society, any Director may be called to the chair, and during such meeting, and for the completion of any business transacted or ordered at the same, shall have the same powers as the President.

SEC. 3. *Duties of Secretary.*—The Secretary shall conduct the correspondence of the society, keeping in a separate book copies of all letters written in the name or on behalf of the society, holding the same free to the inspection of any member of the society, at any regular meeting of the same. He shall also receive and file all letters addressed to the society, holding the same subject to the Board of Directors. He shall attend all meetings of the society and the Board, keeping a full record of the doings of each in a separate book, and shall furnish a copy of the proceedings of each meeting to the Committee on Publication within five days after the close of such meeting. He shall prepare and publish all notices of meetings, shall keep a roll of all Standing Committees, and call the same, (noticing absences,) whenever desired to do so by the Chair; shall sign all certificates of honorary and corresponding memberships, and forward the same to those entitled to receive them. He shall keep, in a book prepared for that especial purpose, the name and address of every member; shall prepare and sign all gratuitous or complimentary cards or tickets of admission; shall countersign all diplomas, certificates of merit, etc., awarded by the society, and forward the same to their

respective claimants. He shall be *ex officio* Librarian; shall keep the seal, and all the plates, dies, engravings, etc., belonging to the society, and shall cause to be struck therefrom such medals and impressions as may from time to time be required. He shall have charge of all specimens, models, plants, seeds, books, etc., and arrange, prepare, or distribute the same, under the direction of the Board. He shall prepare all reports to be made by the Board to the society, and all reports to be made by the society to the State. He shall receive all moneys due or payable to the society, and pay the same to the Treasurer, taking his receipt therefor; shall hold all bonds filed by officers of the society for the faithful performance of their duty, and all vouchers for every class of expenditure. He shall countersign all drafts ordered by the Board, and all certificates of annual and life membership, and keep an account of the same, in a separate book, as they are issued, and shall, in December of each year, prepare a tabular statement of the receipts and expenditures of the society, according to the law incorporating the same; for which services he shall receive such compensation as the Board shall decide to pay.

SEC. 4. *Duties of the Treasurer.*—The Treasurer shall receipt for all funds at the hands of the Secretary, and shall disburse the same only on the order of the Board, attested by the President and the Secretary. He shall also hold in trust all certificates of stock, bonds, notes, deeds, or other evidence of debt or possession, belonging to the society, and shall transfer, invest, or dispose of the same, only by direction of the society, or by a written order of the Board. He shall, within ten days after his election, file with the Secretary a bond for the faithful performance of his duties; said bond to be approved by the Board, and to be in a sum equal to twice the combined amounts of the funds on hand and the estimated revenue for the year, and shall, at the annual meeting, make to the society a detailed report of all his doings, for which services he shall receive such compensation as the Board shall from time to time decide to pay.

SEC. 5. *Duties of the Board.*—The Board of Managers shall have the general and financial management of all the affairs of the society in the interim of annual meetings. It shall fill all vacancies occurring between elections, and shall make the necessary preparations and arrangements for all meetings, fairs, exhibitions, etc. The Board shall also have power to make its own by-laws, (not inconsistent with this Constitution,) and arrange the time and place of its own meeting.

ARTICLE V.—STANDING COMMITTEES.

SECTION 1. *Committee of Finance.*—The Committee of Finance shall consist of three, (the President and Secretary being two,) whose duty it shall be to audit the Treasurer's account, to examine and approve all bills before they are paid, to have a general supervision of the finances of the society, and to report their doings in full to the Board, whenever called on so to do.

SEC. 2. *Library Committee.*—The Library Committee shall consist of three, (the Secretary being one,) whose duty it shall be to have the general supervision of the library and cabinet, to make all necessary rules and regulations for the government of the same, (said rules and regulations being subject to the approval of the Board,) to suggest such means for the safe keeping and enlargement of both the library and cabinet as they may deem expedient, and to make a full report of their doings,

together with the state of the department under their charge, at each annual meeting.

SEC. 3. *Visiting Committee.*—The Visiting Committee shall consist of three, whose duty it shall be to visit and examine all farms, orchards, vineyards, nurseries, field crops, mining claims, ditches, mills, etc., which may be entered for competition, and which shall require examination at other times and places than the annual fair; to award premiums for the same, according to the schedule, and recommend such gratuities as they may deem proper, and make a full report to the Board at least one day previous to the annual meeting.

SEC. 4. *Committee of Publication.*—The Committee of Publication shall consist of three, (the President and Secretary being two,) whose duty it shall be to contract for and superintend, under the direction of the Board, all printing and publishing necessary for the prosperity of the society.

ARTICLE VI.—DONATIONS AND BEQUESTS.

SECTION 1. All donations, bequests, and legacies to this society, designated by the donors for any particular purpose embraced within the objects of the society, shall be with strict fidelity so applied; and the name of each donor, together with the amount and description of such donation, and the object for which it was designated, shall be registered in a book, kept expressly for that purpose.

ARTICLE VII.—MEETINGS AND EXHIBITIONS.

SECTION 1.—*Exhibitions.*—The society shall hold an annual fair and cattle show in the City of Sacramento, and may, at its discretion, hold such other exhibitions as it may deem conducive to the interests of agriculture.

SEC. 2. *Annual Meeting.*—The annual meeting shall be held at the Capital of the State, at such time, during the month of January in each year, as the Board may designate; at which time all the officers from whom reports of the preceding year's service are required, shall present the same, and all officers for the ensuing year shall be elected by ballot; and all officers shall continue in office until their successors are duly qualified.

SEC. 3. *Special Meetings, how called.*—No special meeting of the society shall be called but upon thirty days notice in the columns of a newspaper published in each of the Cities of San Francisco, Sacramento, Marysville, and Stockton; nor without a request signed by at least ten members.

SEC. 4. *Proxy Voting.*—It shall not be admissible for any member to vote by proxy in any meeting of this society, or its Board of Managers.

SEC. 5. *Quorum of the society.*—At any meeting of this society, fifteen members (a majority of whom shall represent counties other than the one where the meeting shall be held,) shall constitute a quorum.

ARTICLE IX.—OFFICE AND ROOMS.

SECTION 1.—The office, rooms, library, and cabinet of the society shall be permanently located at the Capital of the State.

ARTICLE X.—AMENDMENTS.

SECTION 1. Amendments to this Constitution must be presented in writing at an annual meeting, when, if unanimously agreed to, they shall be adopted; but if there be objection, and a majority consent thereto, they shall be spread upon the minutes, and lie over until the next annual meeting, when they shall be read, and if, after due discussion, two thirds of all the members present vote for the amendments, they shall be adopted, and become a part and parcel of this Constitution.

ARTICLE XI.—EFFECT.

SECTION 1. This Constitution shall take effect from and after its passage.

I certify the foregoing to be a true copy of the Constitution of the California State Agricultural Society, as amended by unanimous consent, at the annual meeting of the society, held on the twenty-sixth day of January, A. D., eighteen hundred and sixty-five.

I. N. HOAG, Secretary.

ADDRESS OF M. C. BRIGGS,

DELIVERED BEFORE THE STATE AGRICULTURAL SOCIETY, IN SACRAMENTO,
ON THURSDAY EVENING, OCTOBER 20, 1864.

LADIES OF THE CHRISTIAN COMMISSION AND GENTLEMEN OF THE AGRICULTURAL SOCIETY:—There is one thing without which gold, galvanism, steam, skill, territory, fertility, laws, government, science, art, position, climate, prowess, arsenals, navies, armaments, are as impossible and useless as the phantasies of a dream. It is the bone and brawn, the strength and courage, the glory and defence of nations. While it prospers, they flourish; when it decays, they perish. It is the most filial and expressive form which our recognition of the motherhood of nations can assume. It is the sure source of a nation's wealth, the nursery of its manhood, and the inexorable condition of its longevity.

That thing is AGRICULTURE—in the interests of which you have assembled, and for the promotion of which I have framed this humble address.

It is conceivable that the rude and sparse tribes of very ancient times subsisted upon spontaneous fruits, the results of the chase, and the flesh of domestic animals; but the increase of population must everywhere have created a necessity for the cultivation of the soil—a necessity enforced by the keen urgency of hunger. Tillage, therefore, must have kept even pace, beyond certain very narrow limits, with the growth of the families of mankind.

The meagre records of remote antiquity are little less than totally silent upon the subject of tillage; yet there are sufficient proofs that in the oldest nations, as Egypt and Babylonia, agriculture, in its restricted, etymological sense, was prosecuted with assiduity and perseverance, if not with science and skill. Along the sacred Nile a strip of land measuring five by five hundred miles must have fed a population as dense as that which throngs the banks of the Indus to-day. The Chinese have practised the art of fertilization (indispensable to successful agriculture) from a date too remote to be accurately determined. The Japanese for an indefinite period have gathered heavier crops from their terraced hillsides than we from the virgin soil of our valleys.

Most of the old nations have decayed, and as to all that identified their national existence, expired. Enough is known of their fate to

justify the conclusion that the proximate cause of their decline was the desuetude and disrepute into which husbandry fell among them. The conquests of less civilized but more warlike tribes degraded tillage from a noble to a menial pursuit, destroyed extensive systems of canals and other artificial contrivances for irrigation, discouraged productive industry by greedy extortions and the insecurity of property, and by all the wretched means which usually attend conquest and subjugation compelled the general abandonment of field labor, and insured the prevalence of starvation, and the gradual but sure degradation and waste of population.

The density and vigor of the population of China and Japan are sufficient proof that mortality is not a *condition*, but an *accident* of national existence. It is indeed possible that these venerable empires will pass under foreign control; but the most fervent disciple of the "manifest destiny" school cannot anticipate the period when these full-lived nations will cease to exist, or cease to retain their national characteristics. Yet, a single cause would have prepared for them a history as gloomy and an eclipse as total as awaited Egypt and the old empires of Mesopotamia. The lack of the art of fertilization would have left their soil desert, and their plains citiless. This art we are just beginning scientifically to understand, though as yet we are guiltless of any very general and efficacious use of our knowledge; with them it has been cherished for many centuries. Living within themselves, with few or none of the advantages of large foreign markets, they escaped the too common disadvantages of such markets. They retained all the matter gathered from their fields, and restored it in a much improved form to those fields again. If they cut off the natural supply of *humus*, the debt was paid in *compost*. Thus the earth renewed itself with its own increase, and gradually rose in capacity of production above its natural fertility.

If you will indulge me, the dunghill is a firmer foundation to build empires upon than mountains of eternal granite. China and Japan have no underground sewerage; their filth runs off on human shoulders; the concentrated pestilence of decay, instead of pouring its pollution into neighboring rivers, is laboriously carried to the fields to spread the fatness and bloom of Eden over ten thousand barren slopes. Wonderful chemistry of nature! Manure has furnished the ever recurring banquet of one third of our race for more than twenty centuries. Life and empire spring from the dunghill! China feeds her millions upon the ordure of her millions! It is the mysterious, the sublime, the universal resurrection!

Agriculture is a very old art, but a young science. The tribes of Canaan lived amid wheat fields and vineyards. The ancient Jews, as also the Greeks, knew how to enrich the soil. Solomon and Augustus alike understood the value of composts. Rome honored husbandry, because husbandry yielded bread. Her little seven acre farms were tilled by the noblest of her sons; Cato and Varro, Virgil and Columella, Pliny and Palladius, aided it with tongue and pen; brave old Cincinnatus threw the immortal lustre of his great virtues around it. Yet, in all the ages, men possessed no more than a simple knowledge of results. They drew nourishment from the earth as a blind babe does from the maternal breast. Toil, unrelieved by the gratification of curiosity, unennobled and unsupported by glimpses of sublime interplay of the occult forces marshalled in its service, and involved in its processes and results, became (what it is to the ignorant of every land to-day) a mere delving, a hard and harsh necessity, a cruel alternative against starvation.

Chiefly since the beginning of the present century have farmers begun

to enjoy the light of the higher departments of knowledge, under the investigations of such apostles as Young and Tull, Saussure and Sir Humphrey Davy. At length the surprising growth of all the physical sciences furnished the materials out of which the laborious genius of Liebig, in eighteen hundred and forty, constructed the beneficent science of agricultural chemistry—a science which is destined to rejuvenate and glorify old art forever. Hail and welcome to the new science of agriculture! “The mountains and the hills shall break forth into singing, and all the trees of the field shall clap their hands. Instead of the thorn, shall come up the fig tree, and instead of the brier shall come up the myrtle tree; and it shall be to the Lord for a name—for an everlasting sign that shall not be cut off.”

Doubtless we have found “great spoil!” Yet it ill becomes wise men to forget that, to our imperfect faculties, knowledge, in all departments, is a measurable quantity. Much which passes for science consists of “names given to our ignorance.” We discover certain elements whose combinations constitute growth, but the mode of their combinations eludes our search. Were we possessed of exact and sufficient knowledge as to the conditions and quantitative combinations of oxygen, hydrogen, nitrogen, and carbon, in the air, and potash, soda, lime, magnesia, silica, sulphur, phosphorus, and chlorine, in the earth, with all the geographical, meteorological, mechanical, and chemical conditions involved in the growth of every variety of plant, and in the quality of every soil, then, indeed, we could furnish plant-food with mathematical exactness. But this is far from being true of the most gifted and learned, while to the mass of cultivators the general results of scientific research are all that can be successfully conveyed to them.

Consider the difficulties which embarrass the scientific cultivation of a single field. The atmosphere supplies its own appropriate elements in large excess. We may, therefore, confine our attention to the food which the earth yields to plants through the solvent agency of water, assisted by carbonic acid and ammonia. The natural soil usually contains, in variable quantities, all the varieties of telluric plant-food. We must ascertain which kinds are abundant, and which deficient. This necessitates an analysis, which is expensive to begin with, and extremely unreliable to end with. The soil of an acre, taken to a depth of one foot, weighs, say three and a half millions. An average crop of small grains removes three hundred and fifty pounds; a root crop, six hundred. It will be seen that the quantity taken up as ash matter is extremely small compared with the entire mass. This minute amount includes all the varieties of telluric food, mixed with a large preponderance of earthy matter. These varieties may be very unequally distributed over the same field. The chemist takes five, or fifty, or five hundred pounds from different parts of the field. The quality of the water employed in the analysis will affect the result. The quantity of rain which falls during the season, the nearness of water to the surface, the proximity of a close-textured substratum, the mechanical condition of the soil as to fineness, and coarseness, obduracy, and friability, the lay or slope of the field, and the presence of more or less of certain cognate chemical agents, will modify the efficacy of the lacking ingredients which we are instructed to supply.

How unsatisfactory such an analysis must prove, will appear to all who are capable of reflection. At the same time, the general results of agricultural chemistry are of incalculable benefit. In addition to the novel and ennobling interest with which scientific knowledge alleviates

the mere working of the farm, and the thousand miracles of beauty with which it enables us to adorn the garden, it greatly enlarges upon those lessons of tradition and experience by which we appropriate a soil possessed of certain cardinal qualities to the growing of a particular family of crops, and feed domestic animals with respect to their kind, age, and particular uses.

Agricultural science, while it cannot unveil its arcana to the common eye, nevertheless enforces three great precepts, which the humblest minds can comprehend and apply:

First—Plough deep, and in season;

Second—Return to the soil, in the form of poudrette, stable, bone, and bird manures, a generous equivalent for all the plant-food taken from it;

Third—Pulverize thoroughly and often.

It will be conceded that the position, climate, soil, and government of the United States offer encouragements to agriculture, such as have never existed elsewhere on so grand a scale. A doubt is seriously expressed by eminent writers whether the rankness of tropical vegetation and the debilitation of tropical heats can ever be overcome. The rigors of the far north present insuperable obstacles to varied tillage. But in our happy case the very heart of the earth is given us, “to dress it and to keep it.” Our chaste scenery far surpasses that of the rank, pestilent, overburdened tropics; while the fruits of our zone are as superior, on the whole, as the nectar of the gods to the logwood mixtures of the tap-room.

The breadth of new and rich soil, the ample protection of property, the long period of internal quiet, the ownership in fee simple of the tilled acres by those who till them, the generous size of our farms, the low price of the public domain, the rapid growth of cities and manufactures, the vast improvement in means of transportation, all these have stimulated the improvement of the productive power of labor by means of machinery. Hence, in the department of invention we surpass every other people.

The reaper, the mower, the thresher, the grist mill, the sulky-plough, the corn husker, the corn sheller, the horse rake, and the horse fork, have augmented man power tenfold within a few busy years. With a little machine that costs sixty dollars, a man husks eight times as much corn daily as by hand, while the husks are left butted and slitted for mattresses, and worth, when baled for market, sixty dollars per ton. The patent horse fork unloads a ton of hay in three minutes, the cool and comfortable operator merely forcing home the implement with his foot, and slipping the spring-joint by means of a cord as large as a child's finger. Travelling in Illinois in June, one may see a hundred farmers driving across the glorious cornfields of that vast, fat, fathomless garden, each in a serviceable looking spring seated sulky. A closer inspection will discover two ploughshares, one for each side of the row, capable of easy adjustment to turn inward or outward, as may be desired. Thus, with a sturdy span of horses, the ploughman cultivates fifty acres with ease and pleasure, in place of the tedious, dreaded fourteen acres of other days.

It is this superiority in the item of agricultural implements that has enabled us to do the most wonderful thing in history. With more than a third of our working force withdrawn, we have fed a vast army and navy, supplied the sick and wounded with delicacies hitherto unknown

in military hospitals, donated cargoes to the hungry of other lands, exported breadstuffs, and increased our national wealth a thousand millions per annum during three and a half years of wasteful civil war. Had we possessed nothing superior to the clumsy farming implements of eighteen hundred and twelve, with the high rates of foreign exchange against us, the necessity of importing food would have estopped the war and bankrupted the nation.

The artillery of Grant, and Gilmore, and Sherman, and Sheridan, have thundered bravely at the guilty gates of treason; but the Buckeye mower, the planter, the sower, the reaper, the steam plough, and the threshing machine, are the Armstrongs and Whitworths and Paixhans which have battered down the rebel defenses; and the sulky plough of Illinois is digging that "last ditch" in which the last pot-valiant traitor is to die. We have shot and sabred the "Johnny Rebs" with the potatoes of Pennsylvania, the wheat of Ohio, the onions of Weathersfield, the patent shoe pegs of Rhode Island, the woollen mills and sewing machines of Massachusetts, and the yellow corn of the tremendous West, never omitting the gold and silver round shot of California and Nevada. They, poor souls! are trying to retaliate upon us by a noisy discharge of superannuated doughfaces and fangless Copperheads. My conviction is that they are wasting their powder.

An annual address, to be suitable to such an occasion, ought to possess something of local interest and value.

To describe the peculiarities of our climate, the varieties of soil and situation, the great number of cultures which will thrive beneath our skies, the unequalled excellence of our fruits, the inapproachable number and beauty of our flowers, were but to rehearse what has already been many times repeated. But if it repays the mortification of a failure to find out the cause of it, if one learns fast under the tuition of expensive blunders, then I may regard myself as entitled to indulgence with respect to the misadventure of some branches of agriculture in this State. Albeit I will condense into twenty lines what might cover twice as many pages.

It was by a blunder that I learned the great value of summer fallowing in this climate, in case land be left in such a state as to admit of the thorough harrowing in of the seed just before the first winter rains. By blunders I learned other things; but you will excuse me from speaking in the first person and exclusively of my own experience.

All who travelled at large in California at a time when the planting of orchards was more "the rage" than now, were mournfully saluted by great numbers of young fruit trees, dying or already dead. The principal causes were five:

First—The pits were dug too shallow and too small.

Second—The whole or a considerable part of the tops were left on in transplanting, they were "so pretty."

Third—The farmer got "pay for the use of the ground" by sowing wheat and barley under the trees.

Fourth—The trees were irrigated (better say irritated) by half a bucket or a bucket of water, poured occasionally into a little basin dug immediately around the bole, the effect of which was to bring out a hundred small, sensitive, worthless roots just below the surface; and when the superficial irrigation chanced to go by default a week or two, the poor things died as a matter of course.

Fifth—The insidious, soft, cowardly, copperhead *borers* attacked the tree before it fairly got hold of the soil, or because a traitor *gopher* was gnawing at the roots.

In four cases the remedy suggests itself. In the fifth, the simple, cheap, efficacious, infallible preventive is to shade the bole of the tree during the hot portion of the day—say, to suit all localities, from eleven until four. The egg will not hatch without a high degree of sun heat. The borer invariably enters the side where the sun shines hottest during the day. Set up a long shingle, a short board, a strip of bark, a piece of cloth supported by two sticks, anything, the first of June the year of the transplanting, and let it stand till the season ends. It will benefit the trees aside from the specific use which I am describing.

Where there is a scarcity of water, evergreens should be thoroughly shaded, tops and all, during the first season.

With comparatively rare exceptions, the cutting out of the centres of apple trees is a practice of very doubtful utility.

I beg to submit in this connection that a well organized microscopical department, charged with the examination and description of the *fungi* and insects which infest the garden, the orchard, and the field, would prove a valuable auxiliary to the State Fair, considered as a means of public instruction. Illustrated lectures in this department should constitute a prominent feature among the annual exercises.

Ladies: I modestly maintain that *floriculture* should be added to the domain of housewifery. Is her kitchen clean? do her roses bloom with vigor? Is she punctual with dinner? are her tulips fine? How is her dining-room? how are her dahlias? These ought to be kindred questions. Does she *crochet* well? Does she understand the beautiful arts of cross-fructification, budding, slipping, layering, engrafting? Can she produce from a blossom of the Oxheart and a blossom of the Mayduke a new cherry unlike either parent, by delicately shearing away the *stamens* of the one and the *stigma* of the other? Is she able with the touch of her rosy finger tips to crown a common black locust with a grand, glowing top of rose acacia? No lady should be pronounced "fit to marry" till she has achieved these refined and beautiful mysteries of the floral creation. Is it enough that she can simmer and make soup, dance and darn, exercise herself in tattling a little, and tattling more than a little? Is it enough to profess an extravagant admiration of the bouquet which Cæsar Augustus Snooks presents her, while she knows absolutely nothing about the flowers which compose it? But I grow unamiable. Be good enough to reflect that it is not a hedge of brambles, but of roses, which I desire to place between you and the consummation of the dearest wish of your hearts.

This, fellow citizens, is the annual gathering in which you assume to represent that fundamental interest upon which the nation and the State are erecting their proud prosperity. All other interests sustain toward this a relation of subordinateness and dependence. All the benevolences, all the commissions which illustrate this generation—the Sanitary Commission, the State Relief Committees, the Christian Commission, so superbly represented here, so eloquently pleaded for by all these devices, by all these beaming faces, by all this cunning cheater of imitation, by the savory steam of the New England kitchen, by the flowers without yon chaste temple, and the fairer flowers within—all these draw every cordial, every sweet morsel of wholesome food, every substantial comfort, every raw onion, every ripe apple, every red cherry, every globose gooseberry, from the fields of honest toil.

The merely social consequences of your coming together, the clasp of cordial greeting, the interfusion of congenial feelings, the furbishing of old friendships, and the cementing of new ones—these are but incidents

of the festival. The educative effect of your annual meetings is the paramount motive. To one who has seen nothing better, a ragged donkey is the finest of quadrupeds, a goose the fairest of the feathered tribes. An hour's inspection of the best specimens in every kind, in the animal kingdom, in the wide domain of culture, and in the realm of art, will mature the judgment and refine the taste more than whole years of mere verbal description. This is one way in which the State educates her people; and the people should not fail to honor the occasion by their presence. The ruler and the subject, the teacher and the scholar, the pastor and his parishioner, the father and his sons, the mother and the fair "olive plants round about her table," all should come to the State's great normal school. Here is the potent *osmotic* force which interpenetrates thought with thought, till the experience and discoveries which were the property of the few, become the common possession of the many.

If any complain that the fair is unfairly managed, and are ready to see it fall into disuse for no other reason than that it furnishes a meeting ground for jockey clubs and a reputable opportunity for the debatable practice of horse racing, we answer the complaint in two sentences. First, it is not criminal in horses to possess bone and tendon, wind and power, nor in men to breed and own them. Second, the faultfinders have nothing to do in order to correct the irregularities of which they complain, but purchase memberships, outvote the perversionists, and conduct the institution upon better principles.

Finally, gentlemen, speed the plough that the mill may not cease its turning. It is an evil augury when "the sound of the grinding is low." How Israel must have prospered when the venerated Elisha steadied the plough with ungloved hands behind his tremendous ox team! "The pen is mightier than the sword," they say. (Just now, in parenthesis, some people fancy that the swords of Grant and Sherman are quite as efficacious as the pens of Greeley and Sumner.) But the plough, the reaper, the thresher, and the grist mill, are, in some good sense, mightier than the pen and sword together. When the plough stops, the strong nation will perish, whether its sword be bright as sunlight, or red as wrath.

At no future period of war or peace can we depend so much as heretofore upon the virgin fertility of our vast domain. Every decade purloins the "cream" from many an available rood. Henceforth the science of fertilization must head our list of practical sciences. The earth will grow old if we fail to renew it. "That which is altogether just shalt thou do," is God's law of equivalence, written upon every unshorn meadow and every billowy wheat field. Render a just equivalent, and the fields will never defraud you. It is the most godlike of human achievements to command health and life, and beauty and fragrance, from corruption and decay.

The elements will not be agitated forever. The rotten fabric of the Confederacy, terribly racked and shaken by the recent bombardment from Pennsylvania, and Indiana, and Ohio, will tumble into shapeless ruins when all the free States of the North strip for action in the approaching Presidential election, and train their ballot boxes upon it. Soon we shall have seven hundred thousand swords to beat into ploughshares, and as many bayonets for pruning hooks, with the whole wide, free land as a fit theatre for the mighty achievements of free labor.

It would not be possible to stand in this place, and not remember that your last annual address was delivered by one upon whose grave the tears of thousands are now falling. It will make us better to remem-

ber. Few are like him living; all will be like him in the dread particular of dying. There will come a day when others will fill our places in the thronged Pavilion, where music swells, and woman smiles, and every wave of the undulating air comes freighted with "one drop of fragrance from thousands of roses." Then a remoter time will come, when, to the living generation, our thoughts will appear immature and our works ephemeral, our language rude, and our knowledge meagre and cloudy. Be it so. From our home in the skies we shall note the world's progress with a holy pleasure, if we have helped in our day to lessen its sorrows, and enlarge its knowledge, to promote virtue, liberty, and religion, and make agriculture the most honored, as it is the most useful, employment known among men.

TRIALS OF SPEED IN 1864.

[MONDAY, OCTOBER 17th.

FIRST TRIAL.—Best trotting stallion, in harness; mile heats; three in five; purse—three hundred dollars.

Entries.—B. Rice entered br. h. "Geo. M. Patchen, Jr."
C. H. Shear entered gr. h. "Capt. Hanford."
H. R. Covey entered br. h. "Latham."

Result.—"Capt. Hanford"..... 1 1 1
"Latham"..... 2 2 2
"Geo. M. Patchen, Jr."..... distanced

Time.—First heat—2.36½; second heat—2.37; third heat—2.37½.

SAME DAY.

SECOND TRIAL.—Trotting race—for four year olds; mile heats, three in five; in harness; purse—two hundred and fifty dollars.

Entries.—Israel Zarock entered br. h. "Ben. Franklin."
Michael Ryan entered br. h. "Brown Mac."
G. H. Shear entered br. m. "Alicia Mandeville."

Result.—"Alicia Mandeville"..... 1 1 1
"Brown Mac"..... 3 3 2
"Ben. Franklin"..... 2 2 3

Time.—First heat—2.44½; second heat—2.50; third heat—2.53½.

TUESDAY, OCTOBER 18th.

FIRST TRIAL.—Trotting race—mile heats, three in five; in harness; purse—five hundred dollars.

Entries.—B. Rice entered b. g. "Jim Barton."
J. L. Eoff entered ch. g. "Honest Ance."
C. H. Shear entered ch. g. "Fillmore."

Result.—"Honest Ance"..... 1 1 1
"Fillmore"..... 3 3 2
"Jim Barton"..... 2 2 3

Time.—First heat—2.37½; second heat—2.38½; third heat—2.34.

SAME DAY.

SECOND TRIAL.—Trotting race—mile heats; to harness; free for all emigrants that crossed the plains in eighteen hundred and sixty-four; Golden Eagle purse—three hundred dollars.

Entries.—A. Field Smith entered b. g. "Hector."
B. E. Harris entered br. g. "Fleet."
G. C. Alexander entered wh. g. "Tempest."

Result.—"Fleet"..... 1 1 1
"Tempest"..... 2 2 2
"Hector"..... 3 3 dis

Time.—First heat—2.44; second heat—2.41½; third heat—2.48½.

WEDNESDAY, OCTOBER 19th.

FIRST TRIAL.—Running race—mile heats; three in five; to rule; free for all; purse—five hundred dollars.

Entries.—J. B. James entered bl. filly "Jenny Hull, by "Belmont," out of "Jenny Blanch," four years old.
J. B. Daniels entered b. h. "Little John," by "Lorenzo Dow," dam by "St. Louis," five years old.
H. Williamson entered br. filly "Pele," by "Belmont," out of the dam of "Langford," four years old.

Result.—"Jenny Hull"..... 1 1 1
"Little John"..... 2 2 2
"Pele"..... 3 3 3

Time.—First heat—1.48½; second heat—1.49; third heat—1.48½.

THURSDAY, OCTOBER 20th.

FIRST TRIAL.—Trotting race—mile heats; three in five; in harness; free for all horses that never made better time than 2.50; purse—five hundred dollars.

Entries.—F. M. Chapman enters b. h. "Bob Ridley."
B. E. Harris entered gr. h. "Trim."
J. A. Bachelor entered bl. g. "Dan Hibbard."
N. Coombs entered ch. g. "Baldy."

Result.—"Dan Hibbard"..... 2 2 1 1 1
"Trim"..... 3 1 2 2 2
"Bob Ridley"..... 1 3 distanced
"Baldy"..... distanced.

Time.—First heat—2.50½; second heat—2.48½; third heat—2.42½; fourth heat—2.45; fifth heat—2.45½.

SAME DAY.

SECOND TRIAL.—*Trotting race*—Two miles and repeat; for all; in harness; purse five hundred dollars.

Entries.—C. H. Shear entered ch. g. "Fillmore."
J. A. Bachelor entered b. g. "Stock Broker."
J. L. Eoff entered ch. g. "Gentleman George."

Result.—"Gentleman George"..... 2 1 1
"Fillmore"..... 1 2 2
"Stock Broker"..... drawn.

Time.—First heat—First mile, 2.37, second mile, 2.40½—5.17½; second heat—first mile, 2.36, second mile, 2.36½—5.12½; third heat—first mile, 2.39½, second mile, 2.38½—5.18½.

SAME DAY.

THIRD TRIAL.—*Pacing race*—Mile heats; three in five; in harness.

Entries.—J. L. Eoff entered "Young America."
J. Banquier entered "Missouri Chief."

Result.—There being but two entries, there could be no race, as each race, by the rules, must have three entries—so the entrance money was returned.

FRIDAY, OCTOBER 21st.

FIRST TRIAL.—*Double team trot*—Mile heats; three in five.

Entries.—J. L. Eoff entered "Honest Ance" and mate.
J. A. Bachelor entered "Stock Broker" and mate.
H. R. Covey entered "Jim Barton" and mate.
C. H. Shear entered "Capt. Hanford" and mate.

Result.—"Honest Ance" and mate..... 2 1 1 1
"Capt. Hanford" and mate..... 1 2 2 2
"Barton" and mate..... drawn.
"Stock Broker" and mate..... drawn.

Time.—First heat—2.54; second heat—2.49; third heat—3; fourth heat—2.53½.

SAME DAY.

SECOND TRIAL.—*Trotting race*—for horses that have never made better time than 2.40; mile heats; three in five.

Entries.—Ben E. Harris entered gr. g. "Trim."
H. T. Renwick entered b. g. "Frank."
C. H. Shear entered b. m. "Alicia Mandeville."
H. Hendrickson entered br. h. "George M. Patchen, Jr."

[NOTE.—On account of the darkness on the twenty-first, this race was postponed until the twenty-second, when it came off.]

Result.—"Alicia Mandeville"..... 1 1 1
"Trim"..... 2 2 2
"Frank"..... distanced

Time.—First heat—2.39½; second heat—2.38½; third heat—2.43.

SATURDAY, OCTOBER 22d.

FIRST TRIAL.—*Running race*—Two miles and repeat; to rule; purse five hundred dollars.

Entries.—Nathan Coombs entered ch. h. "Strideaway," by "Billy Cheatham;" "Emma Taylor," by imp. "Glencoe," five years old, one hundred and ten pounds.
J. B. James entered b. c. "Pilot," by "Reveille," out of "Fanny," by "Troubador," three years old, eighty-six pounds.
J. B. Daniels entered b. h. "Little John," by "Lorenzo Dow," dam by "St. Louis," five years old, one hundred and ten pounds.
Henry Williamson entered b. filly "Pele," by "Belmont," out of "Lizzy Givens," by imp. "Langford," four years old, ninety-seven pounds.

Result.—"Strideaway"..... 1 3 1
"Pele"..... 3 1 2
"Pilot"..... 2 2 3
"Little John"..... 4 4 dis

Time.—First heat—First mile—1.52, second mile, 1.52½—3.44½; second heat—first mile, 1.48½, second mile, 1.58½—3.47½; third heat—first mile, 1.51½, second mile, 1.55½—3.47.

SAME DAY.

SECOND TRIAL.—*Trotting race*—to harness; ten miles out.

Entries.—B. Rice entered ch. g. "W. H. Seward,"
J. L. Eoff entered ch. g. "Gentleman George."
C. H. Shear entered ch. h. "Fillmore."

Result.—"W. H. Seward" 1
"Gentleman George" 2
"Fillmore" 3

Time.—28.29½.

PREMIUMS AWARDED, 1864.

ROADSTERS.

Exhibitor.	Residence.	Animal.	Premium.
E. M. Skaggs.....	Sacramento....	Stallion "Young Rattler".....	First—\$100.....
E. Mills.....	Sacramento....	Mare "San José Damsel".....	First—\$75.....

BROOD MARES AND COLTS.

F. S. Malone.....	Sacramento....	Mare "Fanny Wickham".....	First—\$50.....
J. G. McCracken....	Sacramento....	Mare "Kate Rother".....	Special—silver medal.....

SUCKING COLTS.

J. G. McCracken....	Sacramento....	Colt of "Kate Rother".....	First—\$50.....
E. St. Louis.....	Yolo.....	"Fanny's" colt.....	Special—silver medal.....

DRAUGHT STALLION.

John M. Duncan....	Sacramento....	"Wallace"	First—\$50.....
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STALLION OF ALL WORK.

J. G. McCracken....	Sacramento....	"David Hill"	First—\$50.....
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YEARLING COLTS.

L. D. Nash.....	Sutter.....	"Flora Nash".....	First—\$50.....
J. G. McCracken....	Sacramento....	"Fanny Hill"	Special—silver medal.....

TWO YEAR OLD COLTS.

Exhibitor.	Residence.	Animal.	Premium.
F. S. Malone	Sacramento	"April Fool"	First—\$50

PAIR ROADSTERS.

D. D. Colton	San Francisco.	"Fleet" and "Trim"	First—\$100
W. F. Williamson...	San Francisco.	"Ingomar" and "White Eye"	Special—silver goblet

MATCHED CARRIAGE HORSES.

E. M. Skaggs	Sacramento	"Nelly Whitcomb" and "Billy Hamilton"	First—\$50
Chris. Doyl	Sacramento	Team of sorrel horses	Special—silver cup

SWEEPSTAKES.

Nathan Coombs	Napa	T. b. stallion "Billy Chéatham"	First—\$100
John Hall	Alameda	J. b. mare "Helena"	First—\$100
C. F. Reed	Yolo	Stallion other than t. b. "Black Eagle"	First—\$75
C. H. Shear	San Francisco	"Lady Clinton"	First—\$75

DURHAM CATTLE.

[NOTE.—No premiums were offered for cattle or sheep, but a few were on the ground, and were examined by committees, and special premiums were awarded.]

Milton Dale	Yolo	Bull "Seinna"	First—special—silver cup
Milton Dale	Yolo	Cow "Mary Jane"	Special—silver cup

SHEEP.

Thomas McConnell..	Sacramento	Ram "Vermont"	Special—silver cup
Thomas McConnell..	Sacramento	Ram lambs "Billy" and "McConnell's Pride"	Special—silver medal
Thomas McConnell..	Sacramento	Pen of five Spanish Merino ewes	Special—silver cup

TWELFTH ANNUAL MEETING.

SACRAMENTO, January 26th, 1865.

In accordance with previous notice, a meeting of the California State Agricultural Society was held this day, at two o'clock p. m., at Agricultural Hall, in this city. The President of the Board of Agriculture, Mr. Charles F. Reed, of Yolo, called the house to order, and stated the objects of the meeting to be the hearing of the reports of the Board and its officers, and to elect a President for the ensuing year, and three Directors for the ensuing legal term of three years, in place of R. J. Walsh, of Colusa, and A. G. Richardson and Robert Beck, of Sacramento, whose terms of office expired with the close of this meeting, and to transact such other business as might properly come before them.

The President said the first business in order would be the reading of the minutes of the last annual meeting, and if no objection the Secretary would read.

Mr. John H. Carroll, of Sacramento, said he supposed, as every member had read those minutes in the published transactions of eighteen hundred and sixty-three, there was no necessity for reading them now, and moved that their reading be dispensed with. The motion being put, was carried.

The Secretary then read to the members the

ANNUAL REPORT OF THE BOARD.

GENTLEMEN:—This being the year in which no report to the Governor is required by law, the Board will reserve a more detailed report of the year's transactions until the proper time shall arrive, and proceed to give to the members of the society a brief account of their stewardship, and to make such suggestions and recommendations as their experience and the condition of the society and the State seem to demand.

One year ago, when we assumed charge of the affairs of the society, it was at the close of a year of prosperity to all classes of industry in the State. The agriculturist had been blessed with a plentiful harvest, which had enabled and induced him to prepare for an extensive field of operations, with bright hopes that his renewed efforts would again be crowned with success. The miner, in addition to extracting from the

placer deposits and quartz ledges the usual quantities of the precious metals, had extended his discoveries and developed new regions of unusual richness, and was confident in the prospect of a year of unequalled prosperity. The mechanic, the manufacturer, and all other classes of the community dependent on the two former for encouragement and support, had received a corresponding impulse, and were looking forward to the new year cheered with confidence and hope.

Under the judicious and economical management of our immediate predecessors, the financial condition of the society had been much improved. A portion of a large debt which had been allowed to accumulate against the society during a series of previous years, had been cancelled. A change of administration had, to a certain extent, checked the increasing dissatisfaction and want of confidence, so prevalent in the community toward the society and its management. Under these circumstances, and with reliant expectation of material aid from the State, the Board met on the ninth of February, and by unanimous vote resolved to hold a general fair of every department of industry of the State in the following September.

The Legislature, then in session, contrary to our expectations, and, as we think, acting upon a very short sighted policy, withheld the usual appropriation for the payment of premiums. The much hoped for rains, which had been deferred during the winter, failed to fall in the spring, and it soon became very evident that all the industrial interests of the State, which had but a short time before seemed so promising, must suffer materially, if not prove to a great extent a failure. The Board, therefore, rather than risk a general fair, with so poor a prospect of a creditable exhibition, and with almost a certainty of a financial disaster, reconsidered its former action, and determined to conform its operations strictly and rigidly to the circumstances in which the State and the society were placed. The law, however, establishing the society and creating the Board of Agriculture and defining its duties, as well as the tenure by which the society holds some of its most valuable property, required that a fair of some description should be held. In an ordinary season, to select one branch of industry, however attractive or important, and bestow upon it the patronage and encouragement of the society, to the neglect of all others, would be as unwise on the part of the Board, as it would be unjust to those branches neglected. The effects of the drought, however, upon the cereals, and all the various crops of the husbandman; the scarcity of grazing for stock, compelling the owners of cattle and sheep to drive their herds and flocks to distant portions of the State and out of the State for subsistence; the empty Treasury of the society, and the general scarcity of money among the people, admonishing the Board of the propriety of a light bill of expenses, all plainly indicated the character the fair should assume in order to render it, even in one department, a success.

It was evident that no other course than the one pursued could, with safety to the existence and future prosperity of the society, be adopted, and even as to this, the Board was in doubt.

At this period of affairs, the citizens of Sacramento, with a liberality equalled only by their enterprise and perseverance, came forward, and, by subscription, placed at the disposal of the Board over five thousand dollars, to be awarded as purses and premiums for a horse show.

The sum of six thousand nine hundred and thirty dollars were offered in premiums and purses, so distributed as to render the exhibition a feature of attraction and a lesson of usefulness to the admirers of all

classes of horses, from the sturdy draught, to the fleet and beautiful thoroughbred. All preparations were carefully, economically, and well completed, and the fair was held. It proved a success in every respect beyond the most sanguine expectations of the Board. The maxim, that "whatever is worth doing at all, is worth doing well," having been adopted in the beginning, it was strictly adhered to in every particular. The very liberality of the purses and premiums offered gave tone and character to the exhibition. The high value of the stakes to be lost or won gave everybody the impression that the fair must be a grand success, and no one went away disappointed or dissatisfied. The superior grade and quality of the stock on exhibition indicates the certain and positive improvement we are making in this very important branch of agriculture. The game and speed exhibited by the California bred contestants for purses, both in trotting and running races, places California proudly upon the turf record, by the side of, if not in advance, of any other State in the Union. Indeed, we think we may be permitted to say that the fair of the State Agricultural Society of eighteen hundred and sixty-four, taking all things into consideration, has formed one of the brightest pages in the history of the turf, and very prominently foreshadows many brighter ones for our State and the society in the future.

While we congratulate the members of the society upon the many happy and useful lessons of the fair as an exhibition, we are also glad to be able to inform them that, notwithstanding the extreme unfavorableness of the season, it has proved an unprecedented financial success. Every premium and purse was promptly paid as soon as awarded or won, and even more than were offered. Every item of expense made and audited by the Board has been promptly and satisfactorily cancelled. The handsome sum of eight thousand four hundred and twelve dollars and seventy-two cents of the old indebtedness of the society has been discharged, leaving the present indebtedness, including interest to January thirteenth, eleven thousand three hundred and thirty-four dollars and sixty-five cents, against twenty-six thousand four hundred and seventy-three dollars and fifty-six cents on the twelfth day of March, eighteen hundred and sixty-three, when the Board of Agriculture was organized, and the affairs of the society were placed in its hands.

When we take into consideration the embarrassing circumstances, both pecuniarily and otherwise, in which the society was found to be at that time, and the difficulties it has encountered and overcome since, and that it has still been able to work out, in less than two years, this substantial financial result, and regain to so large an extent the confidence and good will of the community, we are forced to the conviction that, with the enormous receipts of former years, the society should to-day have occupied a very different position among the useful institutions of the State from the one in which we find it. Instead of being poor and its energies crippled with the encumbrance of a large debt, it should have been in the enjoyment of such means and facilities as would have enabled it to exert a powerful influence in the direction and development of all the material interests of the State.

The mineral cabinet of the society has not received so great accessions during the last as during the preceding year, owing to the general depression of the mining interest, following the unhealthy excitement of eighteen hundred and sixty-two and eighteen hundred and sixty-three. However, many valuable specimens have been added to the collection. The Amador County Agricultural Society has donated a cabinet of over two thousand specimens, mostly from the valuable copper mines

of that county; and Amador claims, and is entitled to the distinction, of being the banner county of the State as regards contributions to the State Society's cabinet.

Most of the newspapers and periodicals of the State, with a liberality not shown by the press in any other part of the world, have continued to furnish the society with their regular issues. All these have been carefully filed away and preserved, and when bound will constitute an invaluable portion of the society's library. It will contain a most complete general and local history of the State and its interests. The contributors are entitled to the thanks of the Board and the society. And here we would also say, that the California Steam Navigation Company, Wells, Fargo & Co., and the various stage and railroad companies in the State, have, by their uniform liberality, placed the society under lasting obligations. Valuable contributions of statistical reports of various departments of the General Government have been received from our Senator, John Conness, and Representatives Higby, Cole, and Shannon. The society has also been the medium of the above named parties, and Isaac Newton, Commissioner of Agriculture, at Washington, for the distribution of a large number of the annual and bi-monthly reports of the Agricultural Department, as also of many varieties of new and valuable seeds. The latter have been given out to parties who have promised to exhibit the products, by sample, at the succeeding fair; but owing to the drought, very few of those distributed last spring have been heard from. No seeds, except a few packages of wheat, have been received yet this season. Vegetable seeds are usually received too late for use the same year, and hence many varieties are damaged by age. The attention of the department has been called to this fact.

We are under obligations to B. B. Redding, Secretary of State, for statutes of eighteen hundred and sixty-three and eighteen hundred and sixty-four; to W. C. Stratton, State Librarian, for journals and appendix of the Assembly and Senate; and to C. W. Wyman, of Massachusetts, for six volumes of the transactions of the Massachusetts State Board of Agriculture—a valuable contribution.

The society's reports for eighteen hundred and sixty-three have been published and distributed throughout our own State, and many copies mailed to leading journals, and agricultural and other industrial societies in the Atlantic States and Europe. Correspondence has also been opened with these institutions, with direct reference to increasing the size and usefulness of our library, and the Board confidently anticipates satisfactory results.

The Constitution of the society has not been amended since the passage of the law creating the Board of Agriculture. To make it conform to the change in the management of the society, some alteration will be necessary, and perhaps no time more appropriate for making such alterations will be found than the present meeting of the members. If the society should conclude to make such alterations, the Board will suggest some additional ones, which, we think, will tend to enlarge the sphere of its usefulness, and to render its published transactions more practical, and give them a more reliable and authentic character. It has formerly been the custom of the Directors of the society to appoint visiting committees, who have travelled at great expense to the society on exploring expeditions, the scope of their observations embracing every department of industry through the whole length and breadth of the State, and even into adjoining States. These committees have reported to the Board, for

embodying in the published transactions, with tiresome minuteness, where and how they went, and all they saw.

It is doubtful whether the benefits derived from such a custom are equal to the necessarily great outlay. It is believed that the objects for which the practice was instituted may be attained in a much more reliable and authentic manner, and with comparatively little expense. There are men of ability and practical experience in each particular branch of industry in every part of the State, who would, do doubt, if requested, be willing to act as officers or committees of the Board, in collecting and reporting to them annually facts and useful and reliable information in the particular department for which they are qualified and for which they should be appointed.

We have geologists of high character and standing among us, whose business calls them to a constant investigation of the geological structure and advancing development of our mining regions, and whose opinions have great weight, both at home and abroad. Let the Board appoint some one of these as the geologist of the society, and ask of him a practical report of the character of our different mineral sections, and the progress and improvement annually made in mining. Such reports would be, of course, brief and adapted to the general reader; and being published in the annual transactions of the society, would reach a class of readers who would never see the elaborate reports of the State Geologist, now in process of publication. And here we think it not improper to remark that while the General Government is directing its inquiries and investigations to determine in what manner to manage or dispose of the public domain embraced within that portion of our State usually denominated mineral lands, so as at once to produce the greatest revenue to her Treasury, and be of the most benefit to the occupants of the same, perhaps it might be well to inquire what the effect upon the future wealth and industry of the State would be were those lands to be disposed of in such a manner as to invite and induce the permanent occupancy and cultivation in vineyards of those millions of acres located on the hill and mountain sides, and in the countless valleys, which, from actual experience and by the chemical analysis of the soil, and the favorable atmospherical phenomena, are proved capable of producing wines and raisins equal, if not superior, to the most excellent productions of the most favored wine producing countries, not excepting the celebrated wines of the Johannisberg and delicious raisins of Malaga. Under our present system of mining regulations and laws, very few of these acres will be thus cultivated until the title to the same is vested in the cultivator. Their management or sale becomes a serious question of State as well as national policy. It is the interest as well as the duty of the people of the State to indicate to the General Government the proper policy to be adopted in regard to them. It is better to take time by the forelock, and control and direct that policy for our own interests and the best interests of the Government, than, when too late, to condemn a policy which may be to the detriment of both. Every department of industry is equally interested in the question, for when you touch the mines with the hand of oppression, you oppress every other interest; and when you encourage and stimulate the development of the mines, you encourage and stimulate every other pursuit. In this respect, if not in the actual investment of money, we are all miners and all cultivators of the soil. A convention, embracing all the States and Territories on

this side of the continent, called during the ensuing summer, for the discussion of this subject, might lead to good results.

Our wine making interest is becoming one of the greatest industrial interests of the State. It excels that of any other State in the Union. Yet there is not perhaps another branch of industry in regard to the practical operations of which there is so much ignorance among our people as this. The varieties of grapes best adapted to wine making in our State, or in the different localities of it; the chemical properties of the soil required for superior wines; the atmospherical influences of different localities; the manner of planting the vine and tilling the vineyard; the gathering and pressing the grape, and fermenting and after treatment of the juice or must until it is converted into wine—are all subjects about which our people have but very little practical or satisfactory information, and upon which there is prevailing, in all our agricultural communities, the most lively interest and intense desire for knowledge.

If the Board were to appoint some competent person as a chemist to the society, who would, under its sanction and in his official character, receive and analyze, for a fair compensation, to be paid by the applicant, the soils of different localities, and the juice of grapes grown in the different wine growing districts, and keep a careful record of his operations, to be reported to the Board; and if at the same time they were to enlist in their service, as committeemen, intelligent and practical cultivators of the vine and wine manufacturers in the different localities, who should also report their observations, experience, and opinions to the Board, all to be embodied in the published transactions, they might perhaps be able to form some well defined landmarks, which may serve as incentives to enterprise, and guides in the prosecution and development of this great resource of wealth and prosperity. If successful in the accomplishment of this object, the society would have rendered a service to the people and the State greater and more lasting than if, by some supernatural power, they were to convert the whole bulk of Mount Diablo into gold dollars, and distribute them equally between every man, woman, and child within her borders.

The present anomalous condition of the general stock raising interest of our State may well attract the serious apprehension of and engage the attention of the political economists and the best business minds among us. The annual record of death by starvation of a large percentage of the stock of our State, has become almost as much a matter of course as the periodical return of our rainy seasons. During the unusually dry season of the past summer, a great number of stock were driven to the mountains of the Sierra Nevada and Coast Range, where they found an abundance of food to carry them safely through the dry season, but to return to the valley ranges to enrich the soil with their decaying carcasses. Many others were driven to the low land surrounding the confluence of our large rivers, where sufficient feed for the subsistence of nearly half of the stock in the State, during the summer seasons, has for years past been allowed to go to waste annually; but when forced from these luxuriant fields by the sudden rise of the waters, the same destructive fate awaited them as did those from the mountains. The last was an extraordinary season, it is true; but if the owners of large herds of stock would pursue the same course in ordinary seasons that they did the last, they would make a great improvement over the usual custom of pasturing them on the same ranges during the summer on which they are compelled to keep them during the following winter.

But to reform and correct the evils and drawbacks attending stock raising, seems to require a pretty thorough revolution in the whole farming system. The owners of large herds and flocks will be compelled to reduce them to such a number as they can provide winter food for; and the farmers who have heretofore turned their attention almost exclusively to grain raising, will find it much more profitable to raise a greater variety of crops, and include in their annual sales of the products of the farm, a few young horses, fat cattle, sheep, and hogs. The statement of two or three facts will serve to illustrate the extraordinary and disastrous condition of this branch of industry, as it is now seen. During the last summer, when it became evident that the hay crop in a large portion of the State must prove a failure, and consequently command a high price, many persons resorted to the tule lands at the mouths of the San Joaquin, Sacramento, and Cosumnes Rivers, in search of the desired article. Here they found thousands of acres of natural meadows, upon which were cut and secured, according to statistics collected by the Secretary of this Board, and careful estimates made by men of good judgment engaged in the business, not less than fifty thousand tons of a very fair quality of hay. According to the same estimates, there were left standing uncut at least an equal amount. Yet within sight of these extensive meadows, much of them unclaimed and unappropriated by anybody, large flocks of sheep and herds of cattle have been reduced by starvation since the rainy season commenced from twenty-five to fifty per cent in numbers, and probably thirty-three per cent in the weight of those yet alive. Again, when this hay was cut and freighted to localities where principally demanded for use, the expense upon it per ton, as a general thing, amounted to more than an ordinary stock cow or bullock would sell for, and consequently to winter such an animal upon it, would cost more money than the animal would sell for when wintered.

These are extraordinary cases in an extraordinary season, but to a certain extent they occur every year, and to the full extent may occur again. To prevent such recurrence, and to bring about a healthy change in the management of this branch of agriculture, are objects worthy the attention of those who may hereafter control the transactions of this society and the economies of the great interests of the State.

The vast amount of staging on this coast, and the transportation of goods and machinery from navigation to the various mining localities in this State, Nevada, and the surrounding Territories, will, until such time as railroads shall supersede these modes of conveyance, continue to create a great demand for valuable horses and mules, and large quantities of grain for their subsistence. To raise a horse or a field of grain may not generally require a greater degree of skill than is possessed by any ordinary farmer. But to raise and prepare for market a large number of good horses, with profit to the owner, and well adapted to the business for which they were intended, requires a good degree of knowledge of the principles of breeding, the economies of feeding such animals, and the judgment to apply such principles and economies for the attainment of the end in view.

To make a given number of acres of land produce the largest amount of grain and other food that it is capable of producing, without deterioration of the soil, for a series of years, requires a much greater degree of skill and scientific knowledge than is usually exercised, at least by the generality of farmers in this country.

The truth of this latter statement will be apparent when it is proved; as it has been, by statistics collected by our Secretary during the past

year from reliable sources, that most of the grain land in California will, when summer-fallowed, produce eight tenths more grain per acre than when ploughed and sown after the rainy season sets in. Yet not one twentieth of the land devoted to grain raising for years past has been summer-fallowed.

It is proper to remark, however, that great improvement in the manner of preparing the soil and putting in the seed this season over past years is manifest in every part of the State. The efforts of this Board, through its Secretary, in calling the attention of farmers to the importance of this subject, and the drought of the past season, have both contributed to this change. It is hoped that hereafter grain raising will be conducted with greater economy and upon principles which guarantee greater and more certain success. As another good effect of the drought, may be mentioned the interest it has awakened in many parts of the State upon the subject of irrigation. The experience of those who have practiced irrigation for a number of years past proves that almost any of our lands situated back from the river bottoms proper, and which have heretofore been considered capable of producing only small grains, and these only in favorable seasons, may, by the judicious use of water, be made to produce in abundance and with almost absolute certainty, almost any crop embraced in the husbandman's vocabulary in any climate or country. This experience has also established another important fact, that the best and only time necessary to use this water is during the winter season, when all our rivers and creeks are full and capable of supplying almost any quantity desired. A thorough saturation of the soil at this time serves to mature any crop, or two or three different kinds of crops, in a season, without further irrigation. The people of the Counties of San Joaquin, Los Angeles, and Yolo, have been the first to avail themselves of these important lessons upon an extensive scale.

C. M. Weber, of San Joaquin County, has, during the last season, introduced water over his own land and that of some of his neighbors with the most gratifying results.

The particulars as to length of canal or amount of land that may be irrigated have not been received, though written for some time since.*

By means of a ditch and reservoir, eleven miles in length, tapping the San Gabriel River, in Los Angeles County, forty thousand acres of land which has been hitherto used only for grazing purposes, is now being irrigated and converted into one of the most fertile portions of that county, already so justly celebrated for the variety and excellence of its productions.

In Yolo County there are five main ditches, tapping Cache Creek in as many different places, with an aggregate length of twenty-five miles, besides a great number of branches, all capable of irrigating at least one

* The Secretary received on the day after the annual meeting, from Doctor Holden, of Stockton, a letter, of which the following is an extract, and which supplies the information written for:

"I have ascertained some interesting facts in regard to the profitable results by irrigation from Captain Weber's ditches, which are supplied by water from the Calaveras until June, the month the river usually dries up. The several ditches run about five miles, and irrigate about two thousand acres, or ten farms, small sections of which were last year cultivated to wheat; the balance produced oat hay, and a superior article. The estimated value of crops on the two thousand acres is twenty-five thousand dollars, and without irrigation the crops would have been an entire failure. The above is the only system of ditches for irrigation in this county. The result of this first attempt of irrigating on a large scale has been so profitable and sure, many other enterprises of the kind will be undertaken in this county. Californians will find out in time that water is not only quite necessary, but the cheapest fertilizer."

hundred thousand acres of as good land as the State contains. Nicholas Wycoff, the engineer, who located most of the ditches in Yolo County, and the engineer of Swamp Land District Number Eighteen, lying mostly in that county, says, in a letter to the Secretary: "The day is not far distant when the wates of Cache and Putah Creeks, in ordinary seasons, will be used upon the land, and not be suffered to pass into the tules except at high floods—thus assisting to reclaim those valuable lands."

The people of Colusa County are also moving in this matter. They propose to take the waters from the Sacramento River, at any point above low water mark, so as not to interfere with navigation, and turn it through a canal which, including one main branch, will be one hundred and twenty miles in length, over an area of some three hundred thousand acres of black valley land in that and the northern part of Yolo County. The scheme is pronounced entirely practical by competent engineers who have made the preliminary surveys, and the people are determined to accomplish the enterprise and reap its benefits. In view of these facts, and the probability of other similar enterprises, may we not look forward to the time when most of the surplus waters of our creeks and rivers during the rainy seasons will be used to irrigate and render immensely productive all the higher lands of our valleys? As a secondary though very important result of the accomplishment of such a system of irrigation, great assistance would be rendered in permanently reclaiming the tule lands, and the improvements of our farmers, and the towns and cities on the immediate banks of the rivers would be thus relieved, to a great extent, from danger by overflows.

The mechanical and manufacturing industries of the State, though partaking of the general depression of the past year, and suffering somewhat from the state of the currency, which has encouraged importations, have, notwithstanding, continued to enlist in their prosecution a gratifying increase of capital, and to extend their enterprises and scope to a great variety of the articles necessarily used in carrying on the various industrial pursuits, and in supplying the necessities and luxuries of every department of life.

Leather of the various kinds, boots and shoes, harness, saddles, whips, every description of cordage, building materials, granite, marble, lime, plaster, cement, wagons and carriages, railroad, passenger, and freight cars; woolen goods, such as blankets of all kinds, flannels of every description, cloths and cassimeres, carpets; hats, caps, and various kinds of clothing; glue, asphaltum, gunpowder, matches, tar, pitch, resin, mineral paint, spirits of turpentine, salt, soap, yeast powders, starch, vinegar, pickles, every variety of preserved fruits, jams, raisins, figs, maccaroni and vermicelli, castor oil, petroleum, wines, brandies, and the various kinds of spirituous and malt liquors; paper of every variety; glass bottles of all kinds demanded, earthen and stone ware, wood, tin, and wire ware; mining, mill, and steamboat machinery, and machinery of every kind in use; agricultural implements, and various other articles, are manufactured in the State, with greater or less success; very many in sufficient quantities to supply the home demand, and keep up a very good and remunerative export trade, while others are struggling against the persevering competition of importation.

Preparations, upon extensive scales, are now being made to add to this list, railroad locomotives, shot, and lead pipe. The experiment of smelting copper has already proved so much of a success as to warrant the confident expectation that all our copper ores will soon be smelted

within our State, and thus produce a complete revolution in our copper mining interest. The experience of nations proves that no classes of industries aid more in enriching and rendering a State independent than mechanics and manufactures. California has greater natural facilities for becoming an extensive manufacturing State than any other in the Union, and her isolated position furnishes a strong reason for fostering and encouraging them.

For the advancement and improvement of all these objects—and, indeed, all the industries of the State—was this society instituted. While the holding of annual fairs, at which the products and improvements of every department of industry are exhibited for comparison and instruction, and to stimulate emulation and enterprise, is calculated to do great good, and should therefore be continued, yet, for the financial success of the society, the fairs should be made to assume such a character as will prove at once the most attractive and least expensive. It should be no ground of complaint should the Board adopt this policy.

There are other and less superficial mediums through which, in addition to the one just named, the society may render itself equally beneficial to our present population and their material interests, and enlarge and extend its sphere of usefulness, so as to enhance more perceptibly and certainly the State's future prosperity.

Among these may be mentioned a means already adverted to, the appointment of competent committees to investigate and report upon the present condition and best means of improvement in each branch of industry. These reports should assume the character of short, practical, and, to some extent, scientific treatises, wholly Californian in their character and application. The society should also own an experimental farm, with all the facilities and appliances for practically teaching and illustrating agriculture, in all its branches, as adapted to the peculiarities of our soil and climate. It should possess an extensive mineral, mechanical, and agricultural museum, for illustrating our natural history, our mineral riches, and our advancement in the useful arts and sciences. It should enjoy the advantages of a philosophical and chemical laboratory, and an extensive library of useful and practical knowledge, for exemplifying and explaining the truths of science as applicable to the various industrial pursuits of life.

Add to these, by authority of law, the facilities of collecting agricultural and other important statistics, in an authoritative and authentic manner, and the society would then occupy that position of usefulness for which it was originally organized, but to which few such societies attain for want of some definite aim and some constant and steady hand to guide them.

The official management of the agricultural societies of New York and Massachusetts have respectively been under the control of B. P. Johnson and C. L. Flint almost since their first organization. These societies, either of them, are an honor to any country or nation, to say nothing of the States in which they are located.

The importance of reliable agricultural and other statistics to the successful and intelligent conduct of a government, and to the advantageous direction and development of the resources of a State, are too obvious to require an argument, and particularly so in a new State, with resources so diversified as ours; and yet we regret to record the fact that we have not now, as a State, and never had, any system by which such statistics have been or can be collected. In older and more thickly settled communities, with their superior facilities for communica-

tion, it has been found practical to collect such statistics through voluntary agents, who, without compensation, except the consciousness of serving their country, devote their time and energies to the subject, and under a system of reports to one common head, produce a result sufficiently correct for all practical purposes. But in a State where the facilities for travel, except on general routes to a few important localities, are so limited and expensive as in ours, and where so few of our farmers have become so permanently fixed and devoted to their occupation as to inspire that interest in the cause necessary for such an undertaking, and so few are able to afford the time and means for its faithful execution, such a system will be found, as it has already been found by the last two years' efforts of this Board, almost totally inoperative. The present system of reports by the County and District Assessors to the Surveyor-General, has proved to be equally unreliable and uncertain, only from one half to two thirds of the counties in the State being reported at all, and these reports in many instances being mere rough estimates, instead of actual and careful counts. Statistics thus partial and unreliable, in the opinion of the Board, tend rather to depreciate the value and magnitude of our industrial resources, and to injure and prejudice the importance and standing of our State, both among our own people and abroad, than otherwise.

Without narrating the history of the efforts of this Board, during the session of the last Legislature, advised as they were by our immediate predecessors, and seconded by every District and County Agricultural Society in the State, to rectify these evils, and to obtain the passage of a law which would in our opinion have provided an efficient and effective system by which reliable statistics relating to all our industries and productions would have been obtained, we will venture to express the hope that our next Legislature will take a more practical and comprehensive view of the material wants of the State, and will comprehend and supply the necessity of a system by which, through the proper channels, we may possess ourselves of a full sheet exhibiting all our productions and our present and future capacities. One short statute that would effectually accomplish this object, would be of a more real and lasting benefit to our State than a whole volume of such laws as usually emanate from each session of our Legislature. Upon this subject and the necessity of State aid to agricultural societies, Dr. E. S. Holden, President of the San Joaquin District Agricultural Society, than whom no man in the State understands the State's necessities better, holds the following language in his last annual address before that society:

"Last year this society, together with several other similar associations, petitioned our Legislature to appropriate a few thousand dollars for premium money; but our Solons failed to see the benefit of such appropriations; they failed to see that three fourths of their constituents were producing by the sweat of their brows their very existence, their bread and butter. But there was one thing they could easily comprehend, and that was the value of bribe money to create and aid a host of rascally franchises yearly springing up, from San Diego to Siskiyou, from the Sierra to the Pacific.

"Farmers and mechanics, protect your own interests—those interests which contribute so largely to the wealth and independence of nations. Elect, as it is in your power to do, legislators who can comprehend the interests of agriculture and manufactures, and who will honestly protect them."

With all these appliances and facilities for usefulness well managed, the published reports of the transactions of the society would become most interesting and authentic exponents of the agricultural capacities, the mineral wealth, the manufacturing enterprise, and the general resources of the State. Distributed among our own people, they would furnish constant incentives and valuable guides to improvement. Distributed in the Atlantic States and in the rich and populous countries of the Eastern continent, they would serve as the most economical and effective agents to attract immigration to our State that could possibly be employed. Teach the skilled cultivator of the vine and the experienced manufacturer of wine in the agricultural portions of Germany, France, Italy, and other old wine growing countries, that the wine crop has never proved a failure in California since its first introduction by the priests, one hundred and fifty years ago; that owing to the peculiar adaptation of the soil and climate of our State to the growth of the vine, and the average annual product per acre here, under good cultivation, is six hundred gallons, while that of the German States and France is not over one hundred and seventy-five, and that of Italy—the best wine producing country in the world outside of California—is less than four hundred and fifty gallons. Teach them that there is in California over twenty millions of acres of the very best of land for vineyards, and that each head of a family can become the owner of one hundred and sixty acres of the same, by coming here and settling upon and improving it; and will not such information, rendered authentic by our official reports, turn their heads towards California? Will they remain longer than necessity compels them in their own country, where but few of them have any interest in the soil, and can obtain but a poor subsistence as the reward of their daily labors? Teach these facts to foreign capitalists and enterprising and skilful manufacturers, and they also will seek our shores for the profitable investment of their means, and a more adequate return for their enterprise and skill. We should soon have springing up in the various favorable localities of our State extensive wine cellars, the owners of which would purchase the grape or must from the producer, and after subjecting it to careful and skilful treatment for the proper length of time necessary to convert into an article of that superior quality rendered susceptible by the unequalled wine properties of the grape, and not till then, it would be found in the market for sale and consumption.

The immediate effects of this change in the management of our wine interests would be a certain and reliable increased demand for the grape and must, and a proportional increased production. The mere grape juice of from four to six months of age, made by those professing but very little skill in its manufacture, and possessing perhaps less, would disappear from among us, and our home and foreign demands would be supplied with the various kinds of wines, equal, if not superior, to the most excellent and high priced foreign brands.

A very large portion of the sugar consumed in the southern countries of Europe is now manufactured in France from the common white sugar beet. It is a demonstrated fact that this article can be produced in rich alluvial soil of our valleys and tule lands in greater quantities per acre, and with less labor, than in any other portion of the civilized world. By chemical analysis, science assures us that, owing to the peculiarly favorable properties of our soil, the California production possesses a greater quantity of saccharine matter than the same article produced in any part of France. Taken in connection with the present and prospec-

tive high ruling prices of sugar, we have here another branch of industry promising a liberal compensation for skilled labor, and a munificent return for the investment of capital, managed and directed by the lights of science and practical experience.

The cultivation of silk, also, by the experience of competent judges for some ten years in our State, has proved to be a perfect success. The mulberry tree flourishes here with a luxuriance known in no other country. The absence of moisture and explosive electricity in the atmosphere, during the season of feeding and hatching the worms and securing the cocoons, are circumstances which render our State more favorable for the prosecution of this pleasant and important branch of industry than any other country in which silk is produced.

It is a historical fact, that the seasons in the principal silk producing countries in the south of Europe have for years past been growing more cold and moist, and hence less favorable for the production of silk. These are significant facts, which may very profitably be taken into account by those who are to control the future material destiny of our State. It may not be improper here to state that J. Morenhout, Consul of France at Los Angeles, lately sent five samples of cotton, produced in that county by as many different persons, to the Minister of Agriculture and Commerce in France, who, after having the same carefully examined by competent judges, returned in his official report that the samples were all identical in quality, and would command then about the same price as the short silk cotton of the Southern States—from sixty-two dollars to sixty-three dollars per one hundred pounds. The experiment will be thoroughly tested in that county this year. By experiments extending through a series of years in various parts of our State, it is conclusively proved that raisins, figs, almonds, prunes, olives—all articles of commerce, and consequently not liable to overstock any market—can be produced here in equal perfection and greater abundance than in any other part of the world. In a word, to sum up the foregoing statements, we may say we know we have within our borders the elements of greatness and prosperity equal, if not superior, to those of any other State in the Union. Then, what do we lack? what do we need? The answer most emphatically is, *labor and capital*. We cannot attain material greatness or prosper well without these—without both; and capital for investment in our material resources will not, for obvious reasons, precede labor—it would follow. Then labor is the first great necessity. And how shall we obtain it? The General Government, through agents and the distribution of favorable information, is wisely and successfully exerting her means and energies to induce emigration to the United States. According to the report of the New York Commissioners of Immigration, the number of immigrants that arrived at that port during the eleven months ending the thirtieth of November, eighteen hundred and sixty-three, was one hundred and forty-six thousand five hundred and nineteen, against seventy-six thousand three hundred and six during eighteen hundred and sixty-two, showing an increase in one year of nearly fifty per cent from extra exertion. But does the Pacific coast or California receive any portion of that immigration, or any immediate benefit from it? Very little, if any at all. The moment the newcomer sets foot on shore at New York, or any other eastern port, he is hurried off to Illinois, Indiana, Kansas, or some other new State east of the Rocky Mountains, but never to California; hence those States, with far less natural advantages, except as to convenient location for immigra-

tion, outstrip us in the race to wealth and general prosperity. The Pacific Railroad will, when finished, to a certain extent remove this barrier which isolates us from the great centre of our country's population. But till that time California must work out the problem of increasing her labor and capital, and of developing her own resources herself. Let California bestir herself, if she would not fall back from her present relative position among her sister States. Let her make independent and extra exertions to induce a tide of immigration to set in toward her shores before the great field for enterprise and improvement is opened up in the Southern States, to attract and hold the tide from her. Let her send out, through the Golden Gate, such a flood of reliable information in regard to her unequalled productions, her inexhaustible resources and capacities, to those great beehives of industry in the Old World as will cause a lively swarming out of their families of workers, so intent upon securing the unequalled benefits within their grasp here, that no half-way port will attract them from their destination.

Why should not the route from the various emigrating ports of the Old World to San Francisco, by way of Panama, become the line of attraction and travel to those who are seeking an asylum and a home in America? Bring this about, and our march is onward, our destiny certain.

To assist in the conveyance of this information, and accomplishing these objects, what channel so appropriate, what means so effective as the State Agricultural Society, when it shall occupy the position and enjoy the facilities we claim for it?

To place the society in this position, and in command of these facilities, liberal State aid will be required. The front door of the State Treasury will have to be opened by the command of the people, and some of their money used for the accomplishment of these objects. And why not? Facts and statistics are at hand to prove that no people ever became permanently prosperous, or State rich and powerful, until this policy was adopted and adhered to; and that no people or State ever adopted this policy, and continued it judiciously, without becoming intelligent and happy, and rising high in the scale of individual and national greatness.

England annually appropriates millions to auxiliary societies similar to ours, for the encouragement of her agricultural and manufacturing interests, and the world pays tribute to her enterprise and prosperity. France, following her example, has become a power upon the earth. Germany, by early adopting this policy, has made herself an empire of knowledge and a university to the world.

Among our family of States, New York and Massachusetts are noble examples of an enlightened liberality. Then let California profit by good examples, and be wise, as she would be great.

We did intend to discuss another important question to California—the establishment of an Agricultural College. But the space allowable in a report embracing so many objects is not equal to the importance of the subject. We, therefore, recommend the appointment of a committee by our successors, to take this subject under consideration, and report at some future time previous to the meeting of the next Legislature.

All of which is respectfully submitted.

I. N. HOAG, Secretary.

CHARLES F. REED, President.

The report was, on motion of Henry M. Bernard, of Sacramento, adopted, and ordered on file.

The Secretary then read the financial reports.

REPORT OF THE TREASURER.

W. P. COLEMAN, Treasurer,

In account with STATE AGRICULTURAL SOCIETY.

DR.		
To cash received from I. N. Hoag, Secretary, from January 1st to December 31st, 1864.....		\$13,053 50
CR.		
By cash paid for expenses and premiums from January 1st, 1864, to January 1st, 1865.....	\$10,591 53	
By cash paid for outstanding warrants.....	2,461 97	
		\$13,053 50

W. P. COLEMAN, Treasurer.

SACRAMENTO, January 25, 1865.

FINANCIAL REPORT OF THE SECRETARY.

I. N. HOAG, Secretary,

In account with STATE AGRICULTURAL SOCIETY.

1864.	DR.	
To cash of Wm. B. Hunt, pair goblets.....		\$50 00
To cash of A. Bergman, diploma frame.....		3 50
To cash of Morrison & Gover, rent of park.....		1,000 00
To cash of District No. 1, Sacramento City subscriptions....		1,160 00
To cash of District No. 2, Sacramento City subscriptions....		1,710 50
To cash of District No. 3, Sacramento City subscriptions....		651 00
To cash of District No. 4, Sacramento City subscriptions....		996 50
To cash of District No. 5, Sacramento City subscriptions....		400 50
To cash of District No. 6, Sacramento City subscriptions....		161 50
To cash of District No. 7, Sacramento City subscriptions....		198 00
To cash for membership tickets		1,119 00
To cash for daily tickets.....		3,716 00
To cash for season tickets		162 00
To cash of Christian Commission, lumber.....		20 00
To cash, entrance fees to races		1,705 00
		\$13,053 50
	CR.	
By cash paid Wm. P. Coleman, Treasurer, at sundry times		\$13,053 50

DISBURSEMENTS FOR CURRENT EXPENSES.

Date.	Name and Purpose.	Amount.
Oct. 17	C. H. Shear, purse won by "Capt. Hanford".....	\$300 00
Oct. 17	C. H. Shear, purse won by "Alicia Mandeville".....	250 00
Oct. 18	J. L. Eoff, purse won by "Honest Ance".....	500 00
Oct. 18	Ben. E. Harris, purse won by "Emigrant Fleet"...	300 00
Oct. 19	T. B. James, purse won by "Jenny Hall".....	500 00
Oct. 20	J. L. Eoff, purse won by "Gentleman George".....	500 00
Oct. 20	J. A. Bachelor, purse won by "Dan Hibbard".....	150 00
Oct. 21	J. L. Eoff, purse won by "Honest Ance" and mate	800 00
Oct. 21	C. H. Shear, purse won by "Alicia Mandeville".....	300 00
Oct. 22	N. Coombs, purse won by "Strideaway".....	500 00
Oct. 22	B. Rice, purse won by "Wm. H. Seward".....	1,000 00
Oct. 22	J. A. Bachelor, entrance fee returned.....	80 00
Oct. 22	D. D. Colton, premium on team.....	100 00
Oct. 22	John M. Duncan, premium on horse.....	50 00
Oct. 22	E. M. Skaggs, premium on horse.....	100 00
Oct. 22	C. H. Shear, premium on mare.....	75 00
Oct. 22	L. D. Nash, premium on colt.....	50 00
Oct. 22	J. G. McCracken, premium on "D. Hill" and colt...	100 00
Oct. 22	F. S. Malone, premium on mare and colt.....	100 00
	N. Coombs, premium on horse.....	100 00
	E. M. Skaggs, premium on team.....	50 00
	John Hall, premium on mare.....	100 00
	C. F. Reed, premium on horse.....	75 00
	Edgar Mills, premium on mare.....	75 00
	W. P. Coleman, expenditures.....	23 00
	J. Dodge, repairing wells.....	11 75
	J. D. Lord, pumps, etc.....	43 25
	J. W. Burke, ticket clerk.....	24 00
	George P. Warner, ticket clerk.....	30 00
	John McGuire, gate clerk.....	24 00
	George Whitlock, ornamenting hall.....	20 00
	George Booth, services.....	5 00
	T. J. Hall, ticket clerk.....	30 00
	William H. Allen, gate keeper.....	24 00
	John Isaacs, police.....	24 00
	Charles Hardenburg, labor.....	15 00
	J. W. Taylor, police.....	24 00
	T. B. Merry, entry clerk.....	30 00
	T. M. Hubbard, ticket clerk.....	24 00
	W. C. Barrett, sashes and badges.....	16 00
	Daily Bee, advertising.....	30 50
	Daily Union, advertising and printing.....	216 37
	John H. Carroll, pay for music.....	476 50
	Warren & Co., California Farmer, advertising.....	50 00
	George Meservy, labor.....	8 00
	J. V. Hoag, gate keeper.....	24 00
	C. F. Reed, expenditures.....	150 00
	Edwards & Co., stationery.....	42 25
	John Rider, carpenter.....	20 00

Date.	Name and Purpose.	Amount.
	S. M. Wilburn, police.....	\$8 00
	John Nicholson, police.....	21 00
	A. Badlam, Jr., printing.....	175 00
	S. P. Carlisle, ticket clerk.....	20 00
	Justus Hovey, horse for Marshal.....	56 00
	Gas Company, gas for ball.....	74 70
	J. Campbell, use of chairs.....	3 00
	A. A. Wood, gate keeper.....	24 00
	Spirit of the Times, advertising.....	60 00
	E. L. Barber, engraving premiums.....	5 00
	J. Quinn, use of chairs.....	3 00
	I. N. Hoag, services and expenditures.....	825 60
	E. D. Payne, gate keeper.....	12 00
	George Inglas, horse hire, for 1863.....	50 00
	Thomas Coleman, services.....	24 00
	S. Daniels, entrance fee returned.....	30 00
	W. P. Coleman, expenditures.....	30 05
	I. N. Hoag, Secretary's services.....	1,234 50
	M. T. Crowell, labor.....	19 25
	T. J. McKimm, cleaning engine.....	8 00
	B. R. Crocker, expenditures.....	131 25
	Hardy & Hall, badges, etc.....	32 00
	Friend & Terry, use of lumber.....	157 81
	J. & P. Carolan, Manila paper.....	1 25
	Wells, Fargo & Co., freight on books.....	1 50
	Edwards & Co., stationery.....	13 00
	Daily Bee, advertising.....	12 00
	Daily Union, advertising.....	4 50
	Postage and box rent at Post Office.....	31 00
	Total.....	\$10,591 53

DISBURSEMENTS FOR OLD INDEBTEDNESS.

Date.	Name, and number of warrant.	Amount.
1864.		
Dec. 22	H. Caswell, warrants Nos. 9 and 58, on General Fund	\$35 92
Dec. 22	L. B. Harris, warrants Nos 173 to 178, inclusive, on General Fund.....	1,015 00
Dec. 22	M. Edwards, warrant No. 39, on General Fund.....	45 57
Dec. 22	A. Dennery & Co., warrant No. 8, on General Fund	5 00
Dec. 22	F. J. Moore, warrant No. 1, on General Fund.....	22 88
Dec. 22	C. H. Ross, warrant No. 99, on General Fund.....	36 13
1865.		
Jan. 10	J. Calvyn, warrant No. 19, on General Fund.....	3 00
Jan. 10	M. Devine, warrant No. 44, on General Fund.....	5 89
Jan. 10	A. G. Hoagland, warrant No. 27, on General Fund..	19 00

Date.	Name, and number of warrant.	Amount.
Jan. 10	H. M. Bernard, warrant No. 23, on General Fund..	\$4 45
Jan. 10	J. Hawks, warrant No. 59, on General Fund.....	3 18
Jan. 10	O. C. Wheeler, warrants Nos. 56 and 94, on General Fund.....	199 64
Jan. 10	Fuller & Heather, warrant No. 31, on General Fund	18 70
Jan. 10	M. Fitzpatrick, warrants Nos. 54 and 98, on General Fund.....	106 80
Jan. 10	N. L. Drew, warrants Nos. 64 to 73, inclusive, on General Fund.....	496 43
Jan. 10	Sacramento Gas Company, warrant No. 32, on General Fund.....	63 49
Jan. 10	P. Dunlap, warrant No. 89, on General Fund.....	75 00
Jan. 10	J. Baker, warrant No. 33, on General Fund.....	64 80
Jan. 10	C. H. Ross, warrant No. 74, on General Fund.....	225 94
Jan. 10	M. A. Ames, warrant No. 263, on General Fund.....	15 62
		\$2,461 97
	Expenses brought forward.....	10,591 53
	Whole disbursements.....	\$13,053 50

STATEMENT OF THE FUNDED INDEBTEDNESS OF THE SOCIETY.

Description and number of warrants.	Amount.
Amounts of warrants outstanding against the General Fund, January 13, 1864.....	\$18,526 55
Interest on the same from date of registry to January 13, 1865.....	1,220 82
Indebtedness at latter date.....	\$19,747 37
<i>Warrants redeemed, including interest :</i>	
Grimes & Felton, No. 58.....	\$19 75
J. G. Clark & Co., No. 9.....	100 00
L. B. Harris, Nos. 173 to 178, inclusive.....	4,000 00
Leonard & Seaman, No. 39.....	151 92
Dennery & Co. No. 8.....	18 00
F. J. Moore, No. 1.....	120 45
C. H. Ross, No. 99.....	111 16
Williams & Calvyn, No. 19.....	12 00
M. Devine, No. 44.....	23 57
A. G. Hoagland, No. 27.....	95 00
H. M. Bernard, No. 23.....	17 82
J. Hawks, No. 59.....	8 50
O. C. Wheeler, Nos. 56 and 94.....	798 57
Fuller & Heather, No. 31.....	93 50

Description and number of warrants.	Amount.
M. Fitzpatrick, Nos. 54 and 98.....	\$267 00
N. L. Drew & Co., Nos. 64 to 73, inclusive.....	1,150 00
N. L. Drew & Co., No. 74, (indorsed—paid)...	3 72
Sacramento Gas Company, No. 32.....	226 75
I. M. Hubbard, No. 33.....	240 00
C. H. Ross, new issue for balance, \$99, No. 74	572 01
M. A. Ames, No. 63.....	62 50
Harman & Hartley, No. 89.....	188 00
<i>Warrants donated to the Society :</i>	
Chase and Boruck, No. 18.....	30 00
Treadwell & Co., No. 87.....	4 00
A. Badlam, Nos. 7, 21, and 34.....	98 50
Whole amount of warrants redeemed last fiscal year..	\$8,412 72
Whole amount of outstanding warrants on the 13th of January, 1865.....	\$11,334 65

These reports were, on motion of John H. Carroll, referred to a committee of three for examination and report to the meeting as to their correctness.

The President appointed as such committee John Arnold, George W. Stewart, and E. D. Wheatley, to whom the Secretary handed the reports, books, and vouchers for the past fiscal year.

Mr. John H. Carroll moved that a committee of three be appointed by the President to consider and report upon certain amendments to the Constitution, as recommended by the Board.

Mr. Drew moved that the subject matter be referred to the incoming Board of Directors, to report to the next annual meeting.

The Secretary, I. N. Hoag, stated that many of the amendments referred to in the annual report of the Board were rendered necessary on account of the changes, by law, in the organization of the Board of Agriculture in place of the old Board of Managers. That they should be made at this meeting, so that the Board could have some rules of action for the coming year, and that they might be published in the transactions of eighteen hundred and sixty-five. If a committee were to be appointed, they could consider and report on the matter in a short time, as the amendments had been prepared as recommended.

Mr. Drew withdrew his motion, and the motion to appoint a committee prevailed.

The President appointed Messrs. J. H. Carroll, Judge E. B. Crocker, and T. H. Hyatt, as such committee.

J. M. McDonald moved that I. N. Hoag be added to the committee. Carried.

H. Bernard moved that the meeting take a recess for thirty minutes to give the committees time to report. Lost.

On motion of N. L. Drew, the meeting determined to proceed to the election of officers.

The President appointed C. H. Ross and James Lansing as tellers, and declared nominations for a President now in order.

D. Kendall, of Sacramento, nominated C. F. Reed, of Yolo, for re-election to the same position now held by him.

Mr. Reed stated that he was not a candidate for re-election. He hoped the meeting would elect some one else, who could give more time to the responsible duties of the office. He had not been able to devote as much time to those duties in the past year as he had desired, and had intended to decline peremptorily to serve another year, but as there seemed to be a pretty general desire to renominate him, he had concluded to abide by the action of the meeting.

There being no other nomination, the members proceeded to ballot. Upon count, Mr. Reed, having received all but a few scattering votes, was declared by the Secretary the President of the society for the ensuing year, and upon motion, the choice was made unanimous.

Mr. Reed being called for, said:

GENTLEMEN:—I thank you for the flattering unanimity with which you have re-elected me to the honorable and responsible position of President of the State Agricultural Society. I did not desire it. I did not expect it. I have endeavored during the past unfavorable season to do my duty to the society. If I have been successful in my efforts, and the society has been carried successfully through a critical period of its existence, you are indebted more to the skilful management and business qualifications of the members of the Board and officers with whom I have had the honor to be associated than to any merit of my own. Since you have done me the honor to place me in the same position for another term, I am in hopes that I shall have the pleasure of being associated with the same officers with whom I have acted during the past year. All the transactions of the Board and all their plans have been characterized and adopted with a unanimity seldom equalled, and if the same officers are continued I doubt not the future will be as agreeable as the past, and that the society will continue to prosper under the same management. The next business is the election of three Directors, in place of Messrs. Walsh, Richardson, and Beck. Nominations are in order.

Messrs. R. J. Walsh, Robert Beck, A. G. Richardson, J. R. Crandall, J. W. Shaw, D. E. Callahan, and Sylvester Tryon, were placed in nomination. The three last mentioned names were withdrawn, and upon ballot Messrs. Walsh, Richardson, and Beck received all but a few scattering votes, and were declared duly elected for the term of three years.

The meeting then adjourned to seven o'clock in the evening.

The President called the meeting to order, and called for the reports of the committees.

John Arnold, from the committee to examine the financial reports of the Treasurer and Secretary, reported that the committee had performed that duty—that they found vouchers for all items of expense, with one

or two exceptions, and these were satisfactorily explained. The committee were entirely satisfied with the correctness of the reports and the good management of the finances of the society.

The report was adopted and the committee discharged.

The committee on the amendments to the Constitution reported favorable to those recommended by the Board, and after reading the Constitution by sections, and discussing the amendments proposed, the meeting adopted the report and the amendments unanimously. They make the wording of the Constitution conform to the law creating the Board of Agriculture, and indicate some radical and important changes in the management of the society.

The President called the attention of the meeting to the fact that there was to be a new agricultural paper, called the *California Rural Home Journal*, published in San Francisco soon, by T. Harte Hyatt & Co., and also named the *California Farmer* as an old established paper, and said if agricultural papers were better supported we should have more successful and intelligent farmers in our State.

The following resolutions were then introduced, and both unanimously passed:

"*Resolved*, That the thanks of the society be tendered to their executive officers for their very able, interesting, and complete annual report made to this meeting, and that we especially commend its suggestions and recommendations to the friends of agricultural improvements throughout the State."

"*Resolved*, In consequence of the unfortunate and embarrassed condition of the State Agricultural Society in eighteen hundred and sixty-four, which precluded the possibility of an agricultural exhibition of that year, the duties of the Secretary, I. N. Hoag, were peculiarly arduous for the new order of things; but the universally satisfactory manner in which his duties were performed, and the increased good will to the society resulting therefrom, it is hoped that the valuable services of the same officer will be secured for the coming year, as likely to win many more friends to the society, and increase the best interests of the institution."

The President stated that under a rule of the Board, adopted previous to the last fair, "that any person who should be declared by the Judges distanced for foul riding or driving in any race, should forever thereafter be excluded from riding or driving in a race on the society's track," a Mr. Lusk was thus excluded; that he had promised Mr. Lusk and his friends that he would call the matter up before this annual meeting for its consideration and action. Mr. Lusk desired to be reinstated, and this meeting doubtless had the power to reinstate if they so desired to do.

Mr. Carroll said, for the purpose of placing the subject properly before the meeting, he moved that Mr. Lusk be reinstated, or allowed the same privileges on the track as though no rule had been violated by him.

The motion being seconded and stated by the President, Mr. Carroll said as it was the first time so rigid a rule had been adopted by the society, or in the State, and as this was the first violation, perhaps it would not defeat the objects of the Board in adopting it if Mr. Lusk should for this violation be relieved from the severity of the penalty.

Mr. Skaggs said the rule was a good one, and he presumed the Board had considered it well before they adopted it. Its object and effect was to enforce good and honorable conduct on the part of riders and drivers during the fairs of the society. The rule was published in the programmes of races, and was well understood by all before the fair commenced; that if all the rules of the society were to be enforced rigidly, good order and satisfaction would prevail at the fairs, but if the meeting were in effect to reverse the decisions of the Judges in this case and remove a penalty the party had brought upon himself, on any occasion in the future, when the temptation might be great, the rules would be violated with impunity, and the society would become an object of ridicule.

Mr. Bernard spoke on the same side of the question.

Mr. Hyatt thought, as this was the first offence, it might be well to reinstate the party, but have it distinctly understood that for any second offence no excuse should prevail.

The subject was fully discussed by other members when, upon a vote being taken, the meeting by an almost unanimous vote refused to reinstate Mr. Lusk, thus sustaining the action of the Judges and the rule of the Board.

The following letter was read by the Secretary :

Mr. Hoag, Secretary :

Stockton, January 20th, 1865.

DEAR SIR :—Your notice of the annual meeting of the State Agricultural Society is at hand. Our Agricultural Board will appoint delegates to the election, but the roads are in an almost impassable condition, and it may be the delegates will not go. Were it possible I would be with you at the election, as I take a deep interest in all that is connected with the society.

Am happy to learn that you have reduced the indebtedness of the society in so large an amount.

Yours, very respectfully,

E. S. HOLDEN.

There being no further business, the meeting adjourned *sine die*.

MEETING OF THE BOARD OF AGRICULTURE.

After the adjournment of the annual meeting, the President called a meeting of the Board of Directors, at which were present C. F. Reed, of Yolo, President; and Directors T. S. Chamberlain, C. T. Wheeler, W. P. Coleman, Robert Beck, B. R. Crocker, and J. H. Carroll.

On motion, the Board proceeded to the election of a Secretary.

Mr. Chamberlain moved that I. N. Hoag, the present incumbent, be re-elected.

The motion was seconded, and unanimously carried.

H. P. Coleman said the law and the Constitution required the Board to elect a Treasurer not a member of the Board; he thereupon tendered his resignation as Treasurer.

The resignation was accepted, and on motion of J. H. Carroll, R. T. Brown, Esq., of Sacramento, was unanimously elected to fill the vacancy.

After a general consultation and discussion of matters pertaining to the interests of the society, the Board adjourned to the call of the President.

TRANSACTIONS OF THE STATE AGRICULTURAL SOCIETY FOR THE THE YEAR 1865.

ROOMS CALIFORNIA STATE BOARD OF AGRICULTURE, }
Sacramento, January 1st, 1866. }

To His Excellency,
FRED'K F. LOW,
Governor of California:

SIR:—In compliance with the law creating the State Board of Agriculture, and defining its duties, a full and detailed account of its transactions for eighteen hundred and sixty-four and eighteen hundred and sixty-five, is herewith submitted. Also, such suggestions as in the opinion of the Board experience and good policy dictate for the advancement of the best interests of the State.

CHAS. F. REED,
President.

I. N. HOAG, Secretary.

STATE BOARD OF AGRICULTURE FOR 1865.

PRESIDENT.

CHARLES F. REEDGrafton, Yolo County.

DIRECTORS.

C. T. WHEELER.....Sacramento.
 JOHN H. CARROLL.....Sacramento.
 EDGAR MILLS.....Sacramento.
 B. R. CROCKER.....Sacramento.
 T. L. CHAMBERLAIN.....Placer.
 WILLIAM P. COLEMAN.....Sacramento.
 A. G. RICHARDSON.....Sacramento.
 ROBERT BECK.....Sacramento.
 R. J. WALSH.....Colusa.

OFFICERS OF THE BOARD.

SECRETARY.

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BOTANISTS.

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Prof. H. N. BOLANDER, San Francisco.

REPORT.

In addition to the ordinary transactions of the society, the list of articles to which premiums were awarded at the fairs, reports of committees, etc., the present volume will contain the very able address of the Honorable John Bidwell, before the Northern District Agricultural Society at its late Fair; the practical and statistical annual address of Dr. E. S. Holden, late President of the San Joaquin Valley Agricultural Society; the learned and eloquent address of Dr. John F. Morse, before the State Society at the last State Fair, and a very valuable and interesting address by the Honorable A. A. Sargent on the same occasion, at the request of the Board, upon the subject of an Agricultural and Mechanic Arts College, with especial reference to the means by which the legislation of Congress granting lands for that purpose may be made available to the State; all of which, and especially the latter, at this time contain suggestions and information valuable to every citizen, and of great importance to correct legislation upon the several subjects of which they respectively treat.

Also, several letters and communications upon the subject of cotton culture in California, from gentlemen, some of whom are engaged in the business in the southern portion of the State; a very valuable report of the committee of the society on vine culture and wine making; and an important communication by the pioneer silk grower of the Pacific coast, Mr. L. Prevost, upon that very interesting business.

The volume will also contain statistical tables of the agricultural and other productions of the State for eighteen hundred and sixty-five, carefully compiled from the reports of the County, District, and Township Assessors, gratuitously furnished, at the request of the Board, upon a plan recommended in another portion of this communication, from the annual report of the Surveyor-General, and from various other sources, business houses, etc., making a fuller exhibit of these productions than has ever before been officially published—together with very valuable and interesting descriptive reports of several counties and districts, and their resources, by their respective Assessors.

In it will also be found, as an entire new feature in the transactions of the society, or that of any other like society, with one or two exceptions as to some of the subjects mentioned, reports of eminent and scientific gentlemen, treating upon the various subjects bearing upon natural history, agriculture, and mining.

The report of Dr. J. G. Cooper, the Zoologist of the society, and lately connected with the Geological Survey, describes very many of the animals, birds, fishes, and reptiles of the State, most interesting to farmers and others, and the manner of collecting and preserving the same for museums and for scientific purposes.

The report of Dr. H. H. Behr, the Entomologist of the society, upon the insects destructive to agriculture, will be found very interesting and important to farmers and horticulturists, and a valuable contribution to that science on this coast.

Professor H. N. Borlander, one of the Botanists of the society, contributes an important and interesting paper upon the grasses of the State. Considering that from the peculiarities of our climate and the close pasturing of our grazing lands, most of the native grasses are disappearing and being supplanted by useless weeds, this report is of most vital importance, and may tend to attract public attention to and induce experiments upon this subject so interesting to the stock growing interests of our State.

The report of Dr. A. Kellogg, in the department of botany, relating to trees and shrubbery, is a strong appeal to arrest the unnecessary destruction of timber in a State where the cost of lumber is already so serious a drawback to agricultural prosperity and improvement, and it is hoped will in many cases induce the "woodman" to "spare that tree," and the farmer to cultivate forests of his own.

The valuable paper of Dr. R. Oxland, Chemist and Metallurgist to the Board, is well timed, and will be found of great interest both to miners and vine growers. It discusses the importance of associations of mine and mill Superintendents for the purpose of obtaining from their personal experiences information as to the best methods of manipulating ores, and for the extraction of the precious metals. Also, some new associations of metals recently discovered in California, and a few introductory observations on the peculiar circumstances of the State affecting the manufacture of wine.

The statistical tables and practical comments of Dr. T. M. Logan, Meteorologist to the society, is probably the most full and complete exhibit of the climate of the Pacific coast that has ever been published. The observations, which are reported on the Smithsonian system, embrace all the important localities, and if properly studied, and its lessons adhered to, will be of great benefit to the agricultural interests of the State.

The paper of Professor Whitney, State Geologist, and who has also accepted the position of Geologist to the society, upon the physical geography of the State, need only to be mentioned to be sought for and read by all who desire correct information upon this subject, of which so little is known to the world.

All these gentlemen have accepted the positions to which they were appointed by the Board, and have gratuitously given to the society their time and knowledge for the purpose of assisting it in its endeavors to answer a demand which has long been felt by the friends of science and enlightened policy on this coast, for a general diffusion of correct information in regard to this comparatively new and in many respects anomalous and unappreciated part of our country. We hesitate not to say that these free contributions to knowledge are worth more to the State than ten times the cost of the publication of this volume of transactions, and the services of the contributors should by all means be secured for a continuance of the important investigations thus begun. But it

would hardly be fair or in keeping with the proverbial liberality of the State to ask or accept such disinterested and valuable services without making due acknowledgement in the form of a material equivalent. It is hoped that the State Legislature, in considering an appropriation to the society, will bear in mind the importance of this subject.

HISTORY OF THE SOCIETY FOR 1864 AND 1865.

In this communication the Board will confine themselves to a succinct statement of the general history of the society, and its financial transactions, since the last report made to you and through you to the Legislature in eighteen hundred and sixty-three, and to a plain statement of such observations as in their opinion experience and good policy dictate for the advancement of the best interests of the State.

The oppressed and unfavorable condition of our industrial interests, particularly those relating to or dependent upon agriculture, in consequence of the severe drought of eighteen hundred and sixty-four, and the want of an appropriation by the Legislature for the payment of premiums, determined the Board to depart from the usual custom of holding a general fair for the exhibition of the products of all the varied interests of the State for that year, lest the necessary expense attending the same should exceed the receipts, and thus increase the already large indebtedness of the society.

The conditions under which the society holds the stock grounds or park, and good faith to the State, to whose liberality it is indebted for some of the means for improving the same, required that a fair of some kind should be held. The citizens of Sacramento, with a liberality that has become proverbial, having tendered the Board the necessary means, an exhibition, exclusively of stock, was determined upon, preparations made, and a fair held, with very gratifying results—both as regards the spirit and quality of the exhibition in the department selected, and the pecuniary condition of the society.

At the commencement of the year eighteen hundred and sixty-five, the abundance of rain and favorable weather had brightened the prospects and cheered the hopes of the agriculturists, and infused new life and activity into every department of industry throughout the State. Everything indicated that the season would present one of those rare opportunities for bringing together, from hill and vale, mountain and valley, from our firesides and workshops, hamlets and cities, the abundant products of the soil, and the ingenious and useful handiworks of our people—to make a grand exhibition of the unequalled productions and boundless resources of the State, and thus answer the important and double purpose of rendering our own people more contented and happy in the enjoyment and improvement of their homes, and to attract the attention of those of other countries who were seeking to improve their condition by emigration, to the many advantages to be found in California over those enjoyed elsewhere.

Appeals to the Board to make such an exhibition were received from those who have the best interests of the State at heart from every part of the country. Although the Board were in full sympathy with these appeals, and appreciated the importance of embracing and making the

best possible use of this opportunity for accomplishing a great good to the people and the State, yet they had not a dollar at their disposal with which to print and publish a premium list, or to pay a premium with when awarded. They could not, as public servants and conservators of the interests of the society and State, see the propriety of adopting a looser rule of action in managing its affairs than they, as business men, would apply in the conduct of their own private operations. They therefore steadily refused to contract obligations or make promises they had not the means and could not see the way to redeem. They finally and reluctantly made an appeal to the people of the State and to the citizens of Sacramento for assistance. The latter again responded to the appeal, and furnished the necessary means; but this came at too late a day to answer the purposes for a successful general exhibition—such as the interests of the State and the people demanded, and the Board desired to make. The premium list, which was ready for the printer on the first day of March, and which should at that time have been published and sent into nearly every family in the State, in order to wake up an interest and give those who might desire to exhibit time to select and prepare their articles—was not, therefore, published until late in August, only thirty days prior to the time for holding the Fair. Under such circumstances, and in so short a time, it could not be expected that a fair, exhibiting in a creditable manner the agricultural, the mineral, and manufacturing interests of so great a State could be made. The Board did not anticipate such an exhibition, and the result proved a success, not only financially, but even in the character of the exhibition, far beyond their most sanguine expectations, and convinces them that under favorable circumstances, with means in their hands to commence at the proper season, and to use in a proper and judicious manner, they could make such an exhibition of the products of agriculture, of the mines, of manufactures, and indeed of everything that goes to make a State rich in resources and a people prosperous and happy, as cannot be excelled or even equalled by any other State in the Union or the world. The Board deemed it proper to say thus much in explanation of the course they have pursued in the management of the society and its affairs, and to show that the seeming delay or neglect on their part to provide for the fullest benefits to all classes in the annual exhibitions has been caused by circumstances over which they had no control, and were as sensibly felt and regretted by themselves as they could be by any of those whose interests and wishes have apparently been neglected.

That like difficulties may not occur in the future, and for the purpose of encouraging the development of our varied resources, we trust the Legislature will, in accordance with its former custom, and as we believe the best interests of the State, make an annual appropriation to the society for a term of years, upon such conditions as may be deemed advisable, of a sum sufficient to pay liberal premiums for the production and exhibition of worthy articles in every department of industry in the State.

We believe the wisdom of this policy is recognized by the universal practice of every State in the Union, the enterprise and prosperity of which is worthy of being cited as an example. Indeed, no fact is more prominent in the history of the rise and progress of States and nations, than that the Government that is most liberal in the encouragement of the enterprise and industry of its people, universally becomes the most prosperous and powerful, and its people the most civilized, enlightened, and happy.

FINANCE.

As will be seen by the financial report of the Secretary for the year eighteen hundred and sixty-four, herewith transmitted, the citizens of Sacramento subscribed and placed at the disposal of the Board the sum of five thousand two hundred and seventy-eight dollars. The receipts from all other sources were seven thousand seven hundred and seventy-five dollars and fifty cents, making the total receipts of that fiscal year thirteen thousand and fifty-five dollars and fifty cents.

Of this amount the sum of six thousand one hundred and fifty-five dollars was used in the payment of premiums and purses, and four thousand four hundred and thirty-six dollars and three cents for the payment of current expenses, leaving a balance of two thousand four hundred and sixty-two dollars and forty-seven cents in the Treasury, which was appropriated according to law for the redemption of outstanding warrants against the General Fund, and with which warrants were redeemed to the amount of eight thousand two hundred and seventy dollars and twenty-two cents. Add to this the sum of one hundred and thirty-two dollars and fifty cents, the amount of warrants donated to the society by different parties, and we have the sum of eight thousand four hundred and two dollars and seventy-two cents, the amount of the indebtedness liquidated during the year eighteen hundred and sixty-four—leaving a balance of outstanding warrants on the General Fund of eleven thousand three hundred and thirty-four dollars and sixty-five cents, at the beginning of eighteen hundred and sixty-five.

This year the subscription of the citizens of Sacramento amounted to four thousand four hundred and seventy-eight dollars. The receipts from all other sources were eighteen thousand three hundred and eighty-seven dollars and forty cents, making total receipts twenty-two thousand eight hundred and sixty-five dollars and forty cents.

Of this amount ten thousand six hundred and eighty-eight dollars and seventy-five cents have been used in the payment of premiums and purses, and eight thousand seven hundred and ninety-four dollars and sixty-three cents to liquidate current expenses, and two hundred and fifty-six dollars and thirty-five cents appropriated for accruing expenses and premiums uncalled for, leaving a balance of three thousand one hundred and twenty-five dollars and sixty-seven cents, which has been used according to law for the redemption of outstanding warrants against the General Fund, and with which there has been redeemed the sum of five thousand nine hundred and fifty-seven dollars and thirty-six cents. Add to this, thirty dollars, the amount of a warrant donated to the society as a subscription, and we have five thousand nine hundred and eighty-seven dollars and thirty-six cents, the amount of indebtedness liquidated in eighteen hundred and sixty-five. This leaves a balance of outstanding warrants, including interest on the same to date, as the present indebtedness of the society, of six thousand two hundred and thirty-four dollars and forty-four cents, against twenty-six thousand four hundred and seventy-three dollars and fifty-eight cents, the indebtedness of the society on the twelfth day of March, eighteen hundred and sixty-three, when the Board of Agriculture was organized, and the affairs of the society placed in the hands of the present management.

Notwithstanding the rapid improvement in the financial condition of the society, if we deduct the sum of five thousand five hundred and eighty-eight dollars and fourteen cents, the amount used for the redemp-

tion of warrants in the last two years, from nine thousand seven hundred and fifty-six dollars donated to the society by the citizens of Sacramento during the same time, we have the sum of four thousand one hundred and sixty-seven dollars and eighty-six cents, the amount the society has fallen short of sustaining itself during that period; or in other words, the amount of assistance it has received and used for the payment of premiums and current expenses, other than the liquidation of old indebtedness.

STATISTICS.

The value of correct and reliable statistics, carefully collected and classified in such a manner as to show at one view the variety, amount, and value of the productions, and the capacity or resources of a State, are universally acknowledged and acted upon by enlightened and far seeing business men and legislators in all countries. They are the inducements and guides to internal improvements, and they direct the course of migration, and the movement and investment of capital throughout the world. A State possessed of abundant natural resources, without a well digested and effective system for the collection and distribution of such information, both at home and abroad, is like a ship at sea laden with a valuable cargo, and endeavoring to find a port in which that cargo can be advantageously disposed of, but without a bill of lading aboard, and not even possessing a chart by which to determine the location of that port, or a compass or rudder with which to guide the vessel into it, if its location were known. We are sorry to say that such even is the condition of our own State. From the want of a well defined policy and enlightened action on the part of those who have heretofore had the power to inculcate a true and proper knowledge and appreciation of our resources and advantages, not only has capital ceased to seek investment and immigration a home among us, but the former is continually being withdrawn to other fields, and we have already furnished a large portion of the people to settle and build up one State and a number of Territories, none of which possess the advantages for the remunerative and permanent investment of capital or profitable application of labor in agriculture, in mining, in manufactures or commerce, to be found within our borders.

Deeply impressed with the importance to the welfare of our State of some authoritative and compulsory mode of collecting such statistics, and of charging that department to whom people both at home and abroad are wont to look for such information, with the duty of gathering, classifying, and distributing them, the Board petitioned the last Legislature for the passage of a law making it the duty of County and District Assessors to collect and return to their Secretary such as they deemed of most importance, to be by him classified and arranged, and published in the annual transactions of the society, and distributed for general information wherever they would probably do the most good. The then unfavorable condition of the State finances, and the disturbed condition of the country, resulting from the rebellion, in a number of the States, had an influence, no doubt, against its passage. The improved condition of the State Treasury, and the fortunate suppression of the rebellion, induces the Board to hope that some Act having so desirable an object in view, will become a law during the present session.

BUREAU OF IMMIGRATION.

With the proper power or authority conferred upon it, and with the requisite means placed at its disposal, and perhaps with more economy and efficiency than a new organization, the State Board of Agriculture would become what many of the States, and particularly the more enterprising of those lately in rebellion, have established, as a separate and distinct body, a Bureau of Immigration. By the close of the war and the abolition of slavery in the Southern States, a vast amount of territory heretofore sealed to the introduction of free labor has been opened, and is already in the field setting forth the productiveness of its soil, the even temperature of its climate, the richness of its mines, the advantages—for manufacturing purposes—of its numerous watercourses, and the certainty and capacity of its markets, as inducements to capital and labor to seek within its borders profitable investment and a happy home. If nothing else can awake California to her interests and duties, the fact that such an extensive and active increase in the competition for the labor and capital of the world has thus sprung into existence, and that that competition threatens to deplete still more her own population, should induce her to put forth earnest and active efforts to retain the laurels with which nature has endowed her, but which it is threatened to snatch from her crown.

We should have books and circulars filled with authoritative and reliable information as to our climate, soil, mines, productions, manufactures, commercial location, and other advantages, distributed in every country from which an emigrant is about to seek a home in the new world. We should have agencies, competent and alive with the importance of their commissions, established in the old countries and in the Atlantic States, to call the attention of people to these facts and figures, and to give such information as they cannot obtain in any other manner. We should have steamers and clipper ships plying between San Francisco and every important port of emigration, to bring immigrants and their families hither, at so low a rate and with such certainty and regularity as will place the passage within the means of the laboring classes, and will render the trip a desirable one.

We should have such mail facilities established as will enable them, when here, to communicate freely to the friends they left behind those persuasive facts, the privileges, luxuries, and advantages they find in their new homes, to which they had previously been strangers. Here is work for our Legislature, and our representatives at the national capital. And here capitalists, landowners, railroad and steamboat companies, and the owners of clipper ships, may find direction for energy and profitable enterprise.

We cannot better express our views upon this subject than by quoting from our report to the members of the society for eighteen hundred and sixty-four. We then said:

"We know we have within our borders the elements of greatness and prosperity equal, if not superior, to those of any other State in the Union. Then what do we lack? what do we need? The answer most emphatically is, *labor and capital*. We cannot attain material greatness or prosper well without these—without both; and capital for investment in our material resources will not, for obvious reasons, precede

labor—it would follow. Then labor is the first great necessity. And how shall we obtain it? The General Government, through agents and the distribution of favorable information, is wisely and successfully exerting her means and energies to induce emigration to the United States. According to the report of the New York Commissioners of Immigration, the number of immigrants that arrived at that port during the eleven months ending the thirtieth of November, eighteen hundred and sixty-three, was one hundred and forty-six thousand five hundred and nineteen, against seventy-six thousand three hundred and six during eighteen hundred and sixty-two—showing an increase in one year of nearly fifty per cent from extra exertion. But does the Pacific coast or California receive any portion of that immigration, or any immediate benefit from it? Very little, if any at all. The moment the newcomer sets foot on shore at New York or any other eastern port, he is hurried off to Illinois, Indiana, Kansas, or some other new State east of the Rocky Mountains, but never to California; hence those States, with far less natural advantages, except as to convenient location for immigration, outstrip us in the race to wealth and general prosperity. The Pacific Railroad will, when finished, to a certain extent remove this barrier which now isolates us from the great centre of our country's population. But till that time California must work out the problem of increasing her labor and capital and of developing her own resources herself. Let California bestir herself if she would not fall back from her present relative position among her sister States. Let her make independent and extra exertions to induce a tide of immigration to set in toward her shores before that great field for enterprise and improvement is opened up in the Southern States to attract and hold the tide from her. Let her send out through the Golden Gate such a flood of reliable information in regard to her unequalled productions, her inexhaustible resources and capacities, to those great beehives of industry in the old world as will cause a lively swarming out of their families of workers, so intent upon securing the unequalled benefits within their grasp here that no halfway port will attract them from their destination.

"Why should not the route from the various emigrating ports of the old world to San Francisco, by way of Panama, become the line of attraction and travel to those who are seeking an asylum and a home in America? Bring this about, and our march is onward—our destiny certain. To assist in the conveyance of this information, and accomplishing these objects, what channel so appropriate, what means so effective as the State Agricultural Society, when it shall occupy the position and enjoy the facilities we claim for it?

"To place the society in this position, and in command of these facilities, liberal State aid will be required. The front door of the State Treasury will have to be opened by the command of the people, and some of their money used for the accomplishment of these objects. And why not? Facts and statistics are at hand to prove that no people ever became permanently prosperous, or State rich and powerful, until this policy was adopted and adhered to; and that no people or State ever adopted this policy, and continued it judiciously, without becoming intelligent and happy, and rising high in the scale of individual and national greatness.

"England annually appropriates millions to auxiliary societies, similar to ours, for the encouragement of her agricultural and manufacturing interests, and the world pays tribute to her enterprise and prosperity.

France, following her example, has become a power upon the earth. Germany, by early adopting this policy, has made herself an empire of knowledge and a university to the world.

"Among our family of States, New York and Massachusetts are noble examples of an enlightened liberality. Then let California profit by good examples and be wise, as she would be great."

SHEEP HUSBANDRY AND DOGS.

Sheep husbandry, as a branch of agricultural industry, is annually assuming larger proportions, and bids fair to become one of the principal sources of the agricultural wealth of California. In eighteen hundred and sixty the number of sheep within our State, as returned by the census of that year, was one million ninety-nine thousand one hundred and thirty-two. By the same authority, our wool clip in that year was two millions six hundred and eighty-one thousand eight hundred and twenty-two pounds. In eighteen hundred and sixty-four we produced eight million of pounds. Taking the increase of wool as a basis for the increase of sheep, and in eighteen hundred and sixty-four our flocks numbered three million one hundred and eighty-seven thousand four hundred and eighty-two sheep. The census of eighteen hundred and sixty gave the State of Ohio nearly one million more sheep than to any other State in the Union. Ohio contained that year three million one hundred and ninety-six thousand five hundred and forty.

The magnitude of this interest in that State, and complaints from the owners of sheep of the ravages of dogs among them, induced the Board of Agriculture of Ohio, as early as eighteen hundred and fifty-eight, to institute a system of collecting statistics by which they might determine the extent of such destruction, and the consequent loss to the State.

The following table shows the result of such investigation:

Year.	No. killed.	No. injured.	Total loss.
In 1858.....	60,536	36,441	\$146,758 00
In 1859.....	41,976	22,750	102,398 00
In 1860.....	32,781	19,001	86,796 00
In 1861.....	31,750	24,254	86,434 00
In 1862.....	36,778	24,972	136,347 00
Total for five years.....	203,824	127,418	\$558,733 00

The frequent complaints from the same source in this State have induced the Board to give the subject some attention, and though they have not been able to ascertain the definite number annually lost in the State, yet they have become satisfied it is very great, single owners, who are sparing no pains or means to improve the quality and value of our sheep by the introduction of better breeds, having reported their individual losses at thousands of dollars per annum. From the number of useless

curs to be seen wherever you go in California, we conclude the loss may safely be set down as great, in proportion to the whole number of sheep in the State, as in Ohio. Upon this basis, the number of sheep in our State, in eighteen hundred and sixty-four, being, as will be seen above, about the same as in Ohio in eighteen hundred and sixty, our losses in the former year may be estimated as about the same as the losses in Ohio in the latter, or at fifty-one thousand seven hundred and eighty-two killed and wounded. We shall count those injured the same as destroyed, as they generally die or are rendered of but little value. By the same reasoning, the total number of sheep destroyed in California within the five years from eighteen hundred and sixty to eighteen hundred and sixty-five, inclusive, would be about the same as shown by the above table to have been destroyed in Ohio from eighteen hundred and fifty-eight to eighteen hundred and sixty-two, or three hundred and thirty-one thousand two hundred and forty-two. Reckoning them at two dollars and a half a head, and the loss to California in the last five years from the ravages of dogs has been eight hundred and twenty-eight thousand and ninety-five dollars.

It is believed that judicious legislation upon this subject, protecting this kind of property from such loss and destruction, would also have the tendency to induce farmers to engage more generally in sheep husbandry, each keeping a few sheep upon his farm, instead of following up the ruinous practice, too much in vogue at the present time, of the constant production of grain, and thus assist in bringing about a more approved and prudent and more profitable system of farming.

It would also encourage the introduction of better breeds of sheep, and consequent improvement in the quantity and quality of wool, without adding anything to the labor or expense of taking care of and feeding our sheep.

By the census of eighteen hundred and sixty, the one million ninety-nine thousand one hundred and thirty-two sheep, then in the State, produced only two millions six hundred and eighty-one thousand eight hundred and twenty-two pounds of wool, or a trifle over two pounds and seven ounces per head, and a large portion of this was of a very inferior quality, commanding in the market only about half the price paid for a number one article.

Since that time our sheep have been considerably improved, and the clip per head considerably increased, so that, in eighteen hundred and sixty-four, the average clip per head is estimated at three pounds and seven ounces. From the experience of those who have improved their common American flocks to one half or three fourths Spanish Merino blood, we know that an average clip of five pounds and seven ounces per head, or two pounds per head over the average of eighteen hundred and sixty-four, may certainly be attained.

The number of sheep in the State in that year being, as above shown, three million one hundred and eighty-seven thousand four hundred and eighty-two, such improvement in quantity would have given us an increased production of six million three hundred and seventy-four thousand nine hundred and sixty-four pounds, which, added to eight millions, the number of pounds actually produced, would have made our whole product equal to fourteen million three hundred and seventy-four thousand nine hundred and sixty-four pounds. Nineteen cents a pound was the average price obtained that year for our wool, but those who had flocks of from one half to three fourths Spanish Merino blood, obtained, on an average, twenty-two cents. At this latter figure the

fourteen million three hundred and seventy-four thousand nine hundred and sixty-four pounds would have been worth three million one hundred and sixty-two thousand four hundred and ninety-six dollars, while the actual receipts for the eight millions produced, at nineteen cents, was one million five hundred and twenty thousand dollars, which being deducted from three million one hundred and sixty-two thousand four hundred and ninety-six dollars, gives us the handsome sum of one million six hundred and forty-two thousand four hundred and ninety-six dollars as the increased annual receipts which our farmers may obtain for their wool by improving the quality of their sheep to the standard above named, without adding anything to their number, and without increasing the expense of keeping them. It is hardly necessary to remark that it costs no more to keep good sheep than poor ones.

Viewed in the light of these figures and considerations, the remark of a writer in the report of the Commissioners of Agriculture for eighteen hundred and sixty-two, that "in this utilitarian age, dogs, which cannot be rendered useful, and are not worth the trouble of controlling, should not be tolerated for ornamental purposes," has a peculiar and ought to have a telling significance, and we commend it to the consideration of the Legislature.

THE RINDERPEST, OR CATTLE PLAGUE.

A very destructive and contagious disease, called by the Germans the Rinderpest, is at this time raging among the cattle of many of the countries of the continent of Europe, and in England. It is supposed to have had its origin, and to be a natural or normal disease among the cattle on the vast plains of Russia. From that country, by the importation of cattle, it was some ten years since introduced into Austria and other German States. At that time the Royal Agricultural Societies of England, Ireland, and Scotland united together and sent Mr. Simonds, an eminent scientific gentleman, and Professor of Cattle Pathology in the Royal Veterinary College of England, to the localities in the German States where it existed, to investigate the disease and report as to the probability of its reaching Great Britain.

That report, which contains much information upon the nature of the disease, will be found in our volume of transactions of this year. But Mr. Simonds came to the conclusion that England need not fear that the disease would reach that country, from the fact of the great distance it would have to travel overland through the German States, who were exercising such great vigilance to arrest and prevent it; and also from the fact that at that time no cattle were brought directly from Russia to England. This threw England off her guard with reference to the matter, until within the last two years the Russian cattle have found a market in England, and the disease has followed them, and according to our Consul, Mr. Lord, at Manchester, is not only now raging and destroying the cattle at a very rapid rate, and bids fair to spread over all the agricultural districts of that country, but it has lately broken out among the flocks of sheep with virulence, and threatens them also. While the General Government has taken the proper steps to prevent its reaching our country, by stopping the importation of sheep and cattle from the infected countries, yet notwithstanding these precautions, it may very natu-

rally reach this coast from France or Spain within two years, or before the assembling of another Legislature, and be found in our midst destroying our cattle and sheep. While our State could not interfere in any manner with the regulations of commerce to prevent its coming here, yet we deem it important and entirely legitimate, and propose that some provision be made to prevent its spreading among our herds and flocks in case it should appear. The Governor might be empowered to appoint a commission of scientific men, to whom any such diseases might be referred, with power to act for the good of the State in case of emergency, and thus prevent the destruction of property, or any other course which the Legislature might deem advisable to secure the same object, we would recommend. We think it important that some provision be made by this Legislature to meet with promptness the first appearance of such a malady among us.

FENCING, AND GRAIN FARMING.

One of the most important problems which the political economist of any age or country can be called upon to solve, is how to reduce to the lowest practical figure the necessary expense attending the production of the food and clothing for man, and the food for the domestic animals he keeps in his employ. Hence, the inventor of the plough, the reaper, the threshing machine, the cotton and wool gins, and other labor saving machines, are counted among the benefactors of the human race. He who, in any other manner, can show the agriculturist how he may reduce his necessary expenses, without decreasing the amount of his annual products, is equally entitled to the same consideration and distinction. The expense of building and maintaining fences, in comparison to the profits of cropping in this State, is so great, that it becomes a matter of serious consideration to the agricultural interests, whether the convenience they afford is not too dearly bought, and whether the extra labor and expense required to maintain them cannot to a great extent be dispensed with, and thus add so much to the producing force of the State, or increase to that extent the profits of agriculture.

On the continent of Europe, where economy of farming has been the especial study of the most practical and best business minds the world has ever produced, the agriculturist has been induced to dispense with the expensive practice of fencing his land. A fence, there, is the exception, and not the rule. The same subject is engaging the attention of the best farmers and agricultural associations of the Atlantic States. Honorable Ezra Cornell, late President of the New York State Agricultural Society, and one of the best and most successful and intelligent agriculturists in that State, and who has lately proved his devotion to the best interests of agriculture by donating half a million of dollars for the establishment of an agricultural college in New York, estimates the expense of sustaining the present system of fencing in that State at ten million dollars per annum, and in addressing himself to the farmers, he asks and answers the following pertinent questions: "Is this a good investment? Do we get a fair and full equivalent for the investment of one hundred and fifty million dollars, for such it really is, as the ten million dollars which we pay annually to sustain our fences, with our farms as collaterals, would secure the use of that sum by loan? I think not;

and I desire that our farmers should begin to reflect upon this subject, and see if it is not time to commence a reform in that direction." He then advises the farmers of New York to wisely prepare themselves for a change that is *sure to come*, sooner or later, and says he has already commenced the change by doubling the size of his fields, lessening the quantity of inside or division fences, and strengthening the outside fences, assuming these will be the last they will dispense with. Now, if the farmers of Europe, after a long experience, which has brought them to understand this question in all its business and economical bearings, have not only stopped the outlay for sustaining fences, but are actually grubbing up the green hedges, which they had to some extent substituted instead, and the farmers of New York and other old Eastern States, almost all of whom have the necessary timber for fencing growing on their own farms, and have only to cut and split it into stakes and rails to prepare it for use, have deliberately come to the conclusion that they have heretofore been acting upon the wrong principle, and unnecessarily incurring a large expense, and are earnestly preparing to dispense with this expense in the future, ought not the subject at least to claim the calm and unprejudiced consideration; not only of the agriculturist, but also of all others who have the best interests of the State at heart, and who by their position and influence help to shape the policy of California in this respect? We, as an agricultural community, are now passing through that trying and discouraging period to which nearly all new States have been subject, resulting from a want of constant and capacious markets for our products, and easy and cheap communication between the great producing districts and those markets; and now is the time, not only to curtail our present expenses, but to seek out and adopt those principles and rules of action to which we may profitably adhere in the future, when more prosperous times await us.

The expense of building and keeping fences in repair in California, owing to the distance of proper and available timber from the agricultural districts, and the cost of transportation, is probably greater than any other country in the world.

In New York, by the estimates of Mr. Cornell, a good rail and stake fence can be built for thirty cents a rod, or ninety-six dollars a mile—costing one hundred and ninety-two dollars to build a good fence around a farm of one hundred and sixty acres. In California a good post and plank fence, the cheapest good fence that can be built, will cost two dollars and nineteen cents a rod, or seven hundred dollars a mile, and fourteen hundred dollars to inclose the same sized farm. In connection with this fact, let us look at the relative prices of some of the products of the farm in the two States.

In New York, wheat at wholesale prices is worth two dollars and a half per bushel, and barley is worth one dollar and twenty cents; while in California wheat is worth only one dollar and twenty cents per bushel, and barley but fifty cents. Add to these facts another very material one, that while in New York the farmer sells his wheat and barley in the bulk, in California he is obliged to sack all his grain for market at an expense of from fifteen to twenty cents per bushel, thus in effect reducing the above prices that amount per bushel—and is there any difficulty in solving the problem of the unprofitableness of the present system of fencing farms and raising grain in California, and of the necessity of a change to prevent universal bankruptcy to this interest?

It is estimated by a gentleman for a long time in the grain business in this State as a merchant and owner of flouring mills, that the annual

loss to the farmers by the purchase of sacks is not less than two million of dollars. This is an absolute loss to the State, to say nothing of the unnecessary additional expense of moving grain in this shape, which comes out of the consumer.

To dispose of the expense of sacks, it is believed that if the farmers would combine together, and steadily and firmly refuse to deliver their grain in them, the speculators and mill men, to avoid this unnecessary tax upon their business, would soon find means to handle grain in bulk, by the use of elevators and other appliances adopted in other countries, and the freight men would readily conform their means of conveyance to the requirements of the case, as they have elsewhere, and thus would result a great saving to the State, and particularly to the farming interest.

Again, it has been estimated by a careful writer and statistician that the fences in thirteen leading agricultural counties in California, viz: Alameda, Colusa, Contra Costa, Napa, Sacramento, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Solano, Sonoma, Sutter, and Yolo, cost the agricultural interests in those counties the sum of nineteen million five hundred and ninety-four thousand nine hundred dollars. That the annual expense of keeping these fences in repair, including interest on the original investment, is five million nine hundred and forty thousand six hundred and seventy-four dollars. The same writer estimates the total value of the gross annual agricultural products of the same counties, excepting stock, at twenty million sixty thousand eight hundred and twenty-four dollars. By this estimate it appears that the original cost of fencing the farms in these counties, supposing them to be well fenced, is very nearly equal to the total value of their entire crop for an average year. And the cost, per annum, of sustaining these fences in repair is over one fourth the total value of the annual agricultural crops which they are designed to protect.

It is hardly necessary to state that this enormous and to some extent self imposed tax upon the agricultural interest in these counties is thought to be necessary in order that their horses and cattle may be allowed to roam at large upon the public commons as the monarchs of all they survey. Sheep and hogs must be left out of consideration in these estimates, they not being among the privileged classes of quadrupeds—not free commoners. Then let us inquire what is the value of the horses and cattle in these counties, for whose benefit all this money is expended and these hardships are imposed upon the farmers and their families. The same writer, whose estimates we have used above, and he bases his estimates upon the official returns of the County Assessors, makes the whole value of all the horses, mules, cattle, sheep, and hogs in the thirteen counties above named, eight million eight hundred and four thousand seven hundred and twenty-four dollars. About one fourth of this entire value, or two million two hundred and one thousand one hundred and eighty-one dollars, is represented by sheep and hogs, leaving the total value of the stock against which the fences are built, six million six hundred and three thousand five hundred and forty-three dollars. The yearly increase or product of this stock is about thirty-three per cent, or two million two hundred and one thousand one hundred and eighty-one dollars.

Now let us look at the deformity of this system of farming from a business or economical point of view. We have invested nineteen million five hundred and ninety-four thousand nine hundred dollars, and are annually adding five million nine hundred and forty thousand six hundred and seventy-four dollars to the original investment, for the pur-

pose of fencing stock worth only six million six hundred and three thousand five hundred and forty-three dollars, and the annual increase of which is only two million two hundred and one thousand one hundred and eighty-one dollars, out of the grain fields, or, which is the same thing, or more truly the fact, for the purpose of fencing this stock in that great field known as the commons. The strangest part of this whole subject is the fact that a very small portion of this stock, or but little of this big field—the commons—around which this fence is built and maintained, belongs to the people whose money and time goes to build and maintain it. And yet, from force of habit, they persistently continue to impose this tax upon themselves in the vain attempt to surround other people's cattle with a *lawful* fence, and thus relieve the owners of the expense of a herder, and prevent the cattle from doing damage.

In view of these careful estimates, proving the impracticability of maintaining the present system of fencing and farming, and abundantly confirmed by the condition of our agricultural districts, as presented to the eye and ear of any one who may travel through them and become conversant with facts as they present themselves, we submit that good policy requires a fundamental change in the system in this State, and we hope the Legislature will examine this matter in the spirit of compromise and conciliation between the conflicting interests, and so act as to bring the greatest good to the greatest number.

A law was passed in eighteen hundred and sixty-four, applicable only to a few counties, popularly known as the "Fence Law." The principle of this law we believe to be correct, but the working features of it are most objectionable, and should not be allowed to remain on the statute book; but a general law, applying to all the agricultural portions of the State, embodying the same principle, but omitting the objectionable features, it is believed would be of great benefit to the State.

IRRIGATION.

The great and unvarying characteristics of the general climate of California, an alternation between a long wet or rainy season and a season of equal length without any rain, and with frequent dry winds lapping up the moisture from the surface of the earth with a rapidity almost incredible to those who have not actually observed it, and at times seeming to poison or blight and nearly ruin the annuals, which constitute the principal agricultural products, induced the early settlers of the ancient Spanish Missions, in portions of the State, to build extensive canals and other appliances for irrigating the soil; and thus they rendered a bountiful harvest as certain as the annual return of the happy harvest season.

The absence of the fostering care and encouragement of a steady and efficient Government was followed by the rapid decline of these ancient and once prosperous settlements, and consequent decay and ruin of their important agricultural improvements.

The advent of the Americans in this country having been followed by a number of seasons of more than an average annual rainfall, we were about to come to the conclusion that the costly irrigating preparations of our predecessors were entirely unnecessary, and that the soil only needed

the application of our more thorough system of cultivation to make it produce to the utmost of its capacity.

A succession of dryer seasons and comparative failure of crops have served to prove to us that, although more thorough cultivation will very much increase and render more certain our annual productions, yet to secure an abundance, and to place us independent of drought and safe from its consequences, we must adopt the system of the Mission Fathers, and extend them over the whole agricultural portions of the State.

We are indebted to a few members of the Legislature of eighteen hundred and sixty-two for a short statute, extending the same powers to condemn private lands for public use possessed by railroad corporations to ditch and canal companies organized for the purpose of irrigation or water power, or for the conveyance of water for mining or manufacturing purposes.

Under that law companies have been organized in different portions of the State for irrigating purposes, and among the most advanced and successful are the Cacheville and Woodland companies, in Yolo County, with particular reference to which localities the law, though general in its application, was originally framed and passed.

There are in Yolo County five main ditches, taking the water from Cache Creek in as many different places, with an aggregate length of twenty-five miles, which, with their collateral branches, when completed, will be capable of irrigating over one hundred thousand acres of land; but only the two above named are so far completed as to show any material results.

To Judge Hutton, of the Cacheville company, and Nicholas Wycoff, of the Woodland company, we are indebted for some very interesting and important facts, to which we would call particular attention. These gentlemen have both been practical farmers in that county since eighteen hundred and fifty or eighteen hundred and fifty-one, and both being close, careful, and intelligent observers—made more so probably by the trials to which all our farming community have been subject for a few years past—their experience becomes of the greatest value to the agricultural interests throughout the State. To show how nearly alike the benefits of irrigation are in both sections, we will give short extracts from the letters of each, addressed to the Secretary of this Board, and which will appear in the body of the transactions for the year. Judge Hutton, whose experience in irrigation extends back to eighteen hundred and sixty, when the main ditch of that company was built, says:

"It has been found by practical experience that the advantages to crops from irrigation are as follows, as near as can be ascertained:

"That in the most favorable season the yield of small grains, and especially such as are late sown, may be increased by a judicious system of irrigation from one fourth to one third in quantity; in ordinary seasons from one third to one half; and in the driest seasons, when the crops fail entirely without it, by irrigation we get the ordinary yield—say from thirty to fifty bushels per acre. And as to corn, vegetables, and fruit, what cannot be successfully produced without irrigation, by it are grown in great abundance and excellent in quality."

Mr. Wycoff says:

"That even in good seasons, an irrigating ditch through a section of land, like the one in which I live, Woodland and vicinity, will make an

increase in productions of twenty per cent; in ordinary seasons, from thirty to fifty per cent; in seasons like eighteen hundred and sixty-four, one hundred per cent. A crop that yields twenty bushels per acre, or less, gives no profit to the farmer—all being consumed in its production. Therefore, whatever is added by irrigation in such cases should be the measure of value to the farmer, and must lead him to admit that his profit has been wholly made by irrigation. The certainty that the farmers would have of making a crop every year should be a conclusive argument for the construction of ditches to irrigate all lands possible."

The letters are both lengthy, and full of valuable practical information. They agree that water serves also as a valuable fertilizer of the soil, bringing down, in solution, from the entire surface of the mountains and high lands from which the water is collected, the fertilizing ingredients annually deposited by decaying vegetation and animals, and yielding to each field irrigated sufficient to keep to a high state its producing qualities. That it may be applied with equal benefit at any time from the first of November to the first of May, and when well applied in any season, wet or dry, will insure a crop, on an average, of forty bushels of wheat or barley per acre. From them we also learn that the cost of irrigation is not over one dollar per acre to those who take water from the companies named, and that the amount of land irrigated from both ditches this year is six thousand five hundred acres. From these data we draw the following deductions, and will endeavor to show the immense importance of the subject to the productive resources of the State.

Taking forty bushels per acre as the average production of good land well irrigated, and according to the statements in the above extracts, the average increase in a favorable season, like eighteen hundred and sixty-five, is nine bushels per acre from irrigation, and in an ordinary season, say like eighteen hundred and sixty-three, it is eleven bushels and five twelfths—call it eleven and a half for our calculation; and in a very dry season, like eighteen hundred and sixty-four, when the land would produce nothing without irrigation, by irrigation you secure the whole forty bushels. Hence, on the six thousand five hundred acres irrigated in eighteen hundred and sixty-five, a few farmers increased the amount of their crops fifty-eight thousand five hundred bushels; in an ordinary season, on the same number of acres, the increase would be seventy-four thousand seven hundred and fifty bushels; and in a season like eighteen hundred and sixty-four, the increase would be two hundred and sixty thousand bushels.

Supposing the grain raised by those few farmers this year to have been one half wheat and one half barley, though we believe it to have been a larger part wheat; at the usual rates, their increased crops were worth forty-nine thousand seven hundred and twenty-five dollars; from which deduct the cost of irrigation, and we have forty-three thousand two hundred and twenty-five dollars as the net receipts from an outlay of six thousand five hundred dollars. That same land, without irrigation, produced nothing in eighteen hundred and sixty-four, and would have produced nothing had it been sown to the same grain and cultivated in the same manner as in eighteen hundred and sixty-five, saving the water. But with the water at the same cost, the net increase to its owners would have been four hundred and eighteen thousand one hundred and ninety dollars at the rates grain sold for that year.

This is not all; the quality of grain raised on land well irrigated is very much better than that on land not irrigated. Upon inquiry among

the owners of flouring mills in this city, who have bought and manufactured the wheat from Yolo County for years, we find they are of opinion that the improvement in quality on an average is at least twenty-five per cent. This is no small consideration when we consider that this quality as well as quantity can, by irrigation, be kept up year after year with almost as much certainty as seed time and harvest follow each other. It is the opinion of the best judges that with an improvement at the outlet of Clear Lake, from which Cache Creek is principally fed, the creek can be made to furnish a sufficient quantity of water to irrigate in the dryest of seasons the whole one hundred thousand acres the ditches projected are designed to flood. If such be the case, then that area of land in a year like eighteen hundred and sixty-four, when it would yield nothing without water, could be made to produce the enormous quantity of four million bushels, and in an average of seasons the increased product from these facilities would be three million bushels, or more than one fourth what the entire State produced of wheat in eighteen hundred and sixty, as stated by the national census. Add to these considerations the fact that with a good system of irrigation every farmer on lands like those under consideration can produce every variety of vegetables and fruits in great abundance, while without it none can be depended on, and consequently we may now ride hundreds of miles through the grain farming sections of our State without seeing a single vegetable garden, and we can form some idea of the changes that the general adoption of such systems would produce in the appearance, comforts, and prosperity of our agricultural communities.

Again: the lands in the neighborhood of these ditches are held at fifty per cent higher than they were two years ago, and farms that could then be had for the taking, are now held at from two thousand to three thousand dollars. Farmers in those sections are coming to regard their homes as of some value, and to realize that a California farmer may yet become, as in other countries, an independent and prosperous man, made happy by the reflection that he has about him in great abundance, for himself and family, the necessities and luxuries of life—all the fruits of his own industry, produced on soil of which he has the undisputed ownership.

Water is the great desideratum. While Providence has not seen fit to provide for its general and necessary perennial distribution over California by the same means He uses in most other countries—the distillation from the clouds—yet He has so located and formed this country that we may not only have it when and where we want it, but He has placed it, in the greatest abundance, so completely within our reach and control that we may use it to our very best advantage, and at the same time we are not liable, as in other countries, to damage from its coming upon us in the seasons of our harvests.

What other country of equal dimensions in the world is so admirably spread out, levelled and graded with the proper slopes for irrigation, as our great inland valley, bounded by the Coast Range on the one side and the Sierra Nevadas on the other, and extending from Fort Reading on the north to Kern River on the south? There is scarcely a foot of this great valley, embracing at least twenty millions of acres of land as rich as the valley of the Nile, but can be abundantly irrigated by the waters of the Sacramento, taken out high up and conducted in canals down along the foot hills on either side, and from the waters of the Feather, Yuba, American, San Joaquin, and thousands of lesser streams, as they flow from the mountains on the east and west, and find their

way, with all the rich fertilizing ingredients collected from this vast watershed, into the ocean. Here is space for gigantic plans or systems of irrigation. Here is room for the application of engineering talent of the highest order, and the building of works of such immense value that the names of their projectors will go with them down the stream of time, associated with the blessings they will convey to generations far distant in the future.

This work is of sufficient magnitude and will be of sufficient benefit, in our opinion, to justify the General Government in donating her entire interest in this land to the State for the purposes of its accomplishment. Why should not these vast plains, lying back from our great rivers, almost valueless without such improvements, be as justly and properly the subject of redemption by Government land aid as the lesser extent of tule or swamp lands bordering immediately on their banks? If the policy is good, and it certainly is, in the one case, then why not in the other? The object is to render valuable and productive, and a source of income to the Government, that which is now of little or no value to individuals, and yields no income. The policy of so managing these lands as to render them valuable, and to induce their settlement and cultivation is in direct harmony with the declaration of President Johnson in his late annual message, when, speaking of the wisdom of the Homestead Act, he says: "Experience proves its wisdom. The lands in the hands of industrious settlers, whose labor creates wealth and contributes to the public resources, are worth more to the United States than if they had been reserved as a solitude for future purchasers." By such improvement of these uplands we shall use a good share of the water which now flows into the lowlands, and while it would improve the former by flooding, it would also improve the latter by preventing the floods. In this connection we would congratulate the people, and particularly the farmers of our State, that we have in our National Congress and in the important position of Chairman of the Committee on Agriculture, a representative farmer, who understands and fully appreciates this great work, and who may be of great service in securing the necessary aid for its accomplishment.

General Bidwell, in a letter written before leaving for Washington, said: "The same encouragement should, in my judgment, be given to bring water on land which is worthless without it, as to take water from land which is useless with it. The dry as well as the swamp lands require reclamation—one will cost relatively as much as the other. Why, then, should not the Government be as willing to donate the dry lands to the State as the swamp lands?"

Proper representation by the Legislature might assist our delegation at Washington to procure such action.

If we examine the statistics of countries where irrigation has been practiced on an extensive scale, we shall find much valuable information and many astounding results which can but be interesting and instructive to all whose interest and inclination it is to investigate this subject with reference to our own State. We submit the following, collected from authoritative sources, and hope that the facts stated as a matter of history in countries not so well adapted by location, and not so much requiring irrigation by climatic influences as our own, will have a tendency to call the attention of those in authority to the importance of the subject and lead to action in the right direction.

The canal of Cavo Marocca, in Lombardy, is one hundred and fifty miles long, and cost eight thousand dollars per mile. The total superficial irrigated region is two thousand five hundred square miles, or one million seven hundred and fifty thousand acres.

The canals of the Ticino are equal to six hundred and twenty-seven and one-fourth miles in length, watering one hundred thousand one hundred and sixty-eight acres.

The canals of the Sesia are two hundred and twenty-five and one-half miles long, irrigating forty-one thousand three hundred and thirty-three acres. The canals of the Dora Battea irrigate one hundred and fifteen thousand five hundred acres.

The whole irrigated region of Piedmont is one million five hundred thousand acres. The amount of cultivated land is eight hundred and ninety thousand four hundred and fifty-four acres, and the area is covered by a network of canals more than one thousand two hundred miles long. The entire length of the canals of Lombardy is four thousand five hundred miles, irrigating over two millions of acres. In the entire valleys of the Po, Piedmont, and Lombardy, there is an increased rental of eight hundred and thirty thousand pounds sterling per year, for an expenditure of forty million pounds sterling; and the progressive increase in population for the irrigated districts is two hundred and seventy-eight one-thousandths per cent, while for the unirrigated districts it is only one hundred and seventy-four one-thousandths per cent. In the Motara and Vignano districts there was no regular culture; the population was scanty and poor, and their industry and internal commerce languishing. Now, as irrigated, it has become richly productive and one of the most densely populated regions in Europe.

In India the canal of the Western Jumna is four hundred and forty-five miles long, irrigating eight hundred and fifty-nine thousand nine hundred and two acres. The best watered district is the great sterile tract of Hissar, the chief towns of which in eighteen hundred and seven were literally without an inhabitant. In eighteen hundred and thirty-seven and eighteen hundred and thirty-eight, the gross value of crops in all was one million four hundred and sixty-one thousand two hundred and seventy-six pounds sterling. One tenth was paid to the Government as land rental, and the remainder supported during a famine over five hundred villages.

The canals of the Eastern Jumna measure five hundred miles, irrigating four hundred and twenty-one thousand eight hundred and seventy-five acres. The gross value of the crops in eighteen hundred and forty-six and eighteen hundred and forty-seven on irrigated lands, which otherwise would have been unproductive, was four hundred and eighty-eight thousand four hundred and ninety-four pounds sterling, of which one tenth was Government revenue.

The Sutlej canal waters an area of three hundred and twelve thousand acres; its increased land revenue is twenty-four thousand three hundred and twenty-one pounds sterling. The value of the crops from irrigation was one million four hundred and eighty-eight thousand five hundred pounds sterling.

The Ganges canal is eight hundred and ninety-eight and one half miles in length, and irrigates four million five hundred thousand acres. The increased land revenue is four hundred and two thousand eight hundred and ninety pounds sterling. The value of the crops from irrigation, on land not otherwise productive, was seven millions six hundred and fifty-three thousand one hundred and twenty-five pounds sterling, of which

one tenth was returned to the Government. The excess of the crops of the irrigated lands above those unirrigated, was for wheat and barley four hundred and eighty million pounds, equal to three million dollars per year; and when the works of the Ganges and Sutlej shall have been completed, the agriculture on which twelve thousand souls depend will be secured; produce valued at not less than fifty million dollars per year will be placed beyond the contingencies of the seasons, and pay to the State in public revenue fifteen million dollars annually protected from fluctuation.

The canal of Urgel in Spain, is seventy-two miles in length, and waters one hundred and ten thousand nine hundred and twenty-four acres of land. From the parliamentary returns of England in eighteen hundred and fifty-four, the extent of land under the title of irrigated meadows, amounted to one million two hundred and ninety-two thousand three hundred and twenty-nine acres, and several meadows, once arid and worthless, by flooding with water have risen to an enormous value, and are stated to be annually let by public auction at prices varying from seventy-five dollars to one hundred and sixty dollars per acre; and it is estimated that the quantity of green food cut annually from each acre is from fifty to eighty tons. In regard to the nutritious quality of grasses on irrigated land, Professor Way, in his recent valuable analysis of grasses, in the Royal Agricultural Society's Journal, has revealed the astounding truth that irrigated grasses contain twenty-five per cent more meatmaking matter than those not irrigated. One great effect of irrigation by flooding, is in killing insects and their larvæ, and worms, mice, squirrels, moles, and other noxious animals living under the ground.

LAND TITLES.

A very serious drawback to the prosperity of our agricultural interests is found in the unfortunate condition of the land titles, or rather the want of titles to the lands in this State.

In early days, the great number of Mexican grants, claiming to embrace within their boundaries the larger portion of the best agricultural land, and at the same time claiming the right to change those boundaries, and float and locate the claims wherever the settlements of the country should indicate the land most desirable and valuable, acted as a great discouragement to the bona fide settler, and retarded very much the development of our agricultural resources.

While this discouragement has been gradually being removed by the final confirmation and location, or rejection, of these grants by our Courts—another, and, if possible, a greater barrier has been arising from the policy pursued in the management of our State lands. The General Government has donated to this State, for various purposes, about eight million nine hundred and fifty-seven thousand six hundred and eighty acres of land; and although the disposition and management of these lands have formed a subject for a part of the annual message of every Governor of the State since eighteen hundred and fifty, and although the laws regulating their location and sale and the manner of giving title to the purchaser have been the prolific themes of legislation in nearly every Legislature since the organization of the State—yet, at this late day,

the State, even, has not a title to one single acre, and is not able to make good her promises to one of the many thousands of persons who have purchased of her in good faith nearly the whole amount of these grants, if they were all to come forward to-morrow, pay into her Treasury the balances for which they have become severally obligated, and demand of her what she has promised them upon the performance of that act—a title. The result is that many of the purchasers have lost confidence in the promises of the State, and have ceased to hope to secure that evidence of ownership of land they occupy, and which is so necessary as an incentive to energy, improvement, and prosperity. Many laboring under these discouragements have abandoned lands, which, under other circumstances, would have been improved and cultivated, and yielding not only a good competency to the owner and his family, but a handsome revenue to the State. Others, from the same causes, have neglected to pay up the interest upon the amount of purchase money left on credit, and have thus legally forfeited not only all the money they have advanced, but all claims of ownership to the land they attempted to purchase. The District Attorneys, in many of the counties of this State in which are located swamp and overflowed lands, acting under authority of law, are at this time prosecuting actions of foreclosure against thousands of persons, who, in consequence of these causes, have neglected to pay up the accruing interest on their obligations given for these lands. Thus, while the State is with one hand disposing of lands, to which she has herself no title—she is at the same time, with the other hand, prosecuting her citizens for the non-fulfilment of their part of the contract, and not only taking from them the land which she, to say the least, unwittingly induced them to purchase from her, but also causing them to forfeit all the money she has received of them in advance.

A very large number of our citizens who have located school and other State lands, are liable to the same prosecutions with the same results, and are only saved from them by the forbearance of the officers to enforce the law. While such is the unfortunate and perplexing condition of the titles of the lands which have been donated to the State by the General Government, private individuals, by application, energy, and perseverance, coupled with a little good business tact, have been able to secure the Government patents for large tracts of land to which they originally claimed title by Spanish grants, but which the Courts have decided against them. The evils connected with our land interests are becoming a most serious source of oppression and wrong to our people, and should not longer be allowed to exist. If the State cannot give titles to lands, we submit whether it is in good faith to enforce from her citizens the moneys they have been induced to promise her for them under a misapprehension of facts. Let her first obtain titles from the general Government by the exercise of some of that business tact which individuals have brought into requisition for a similar purpose, and she will then find plenty of purchasers for all her lands, who will not only be willing, but able to pay for them.

AGRICULTURAL LANDS IN THE MINERAL DISTRICTS.

There are within the mineral districts of California thousands of acres of the most valuable agricultural lands in the world. Valuable from the

fact that they are located near and surrounded by a constantly good and reliable market, created by the mines themselves, and the fact that the soil and climate are so particularly adapted to each other as to render the lands capable of producing, in quantity unsurpassed, and in quality unrivalled, nearly all the most valuable productions known to the most favored temperate and tropical climates. And yet, by the policy of our General Government, prompted and insisted upon by the State, these lands are withheld from survey and sale, and consequently their cultivation and improvement discouraged and delayed.

Not only this, but by the decisions of our Courts an agriculturist or horticulturist, no matter how ancient or sacred his claim, or how costly and valuable his improvements, in the way of vineyards, orchards, buildings, irrigating facilities, etc., cannot acquire even a *possessory* right to the soil which a miner is bound to respect.

What vast fields for the profitable investment of capital and employment of labor—what immense resources of individual, State, and national wealth, are by this policy as effectually and completely closed to the enterprise and enjoyment of our citizens as though they had no existence! We buy of France, of Italy, and Germany, our delicious wines and cordials, our valuable brandies, our indispensable raisins, figs, and prunes, and many other valuable fruits and delicacies, while we possess in these forbidden hills and valleys a soil and climate superior to those of France, Italy, or Germany, for the production of all these articles, not only in quantity sufficient for our own use, but for the supply of the world.

While we would not recommend a change of policy in the management of the lands more valuable for mining than agricultural purposes, yet we do not believe it necessary, in fostering the development of the former, to discourage and refuse the cultivation, improvement, and enjoyment of the latter. We would therefore recommend the segregation of the agricultural from the mineral lands, and that the former may be sold in such quantities as will best induce their profitable development and cultivation. This policy must in time be adopted, or one deemed objectionable to the mining interests will be forced upon us. If the State would have a policy in this respect of her own, one in accordance with the best interests of all her industries, let her take the lead in this matter and she may secure it.

AGRICULTURAL AND MECHANIC ARTS COLLEGE LANDS.

We deem it fortunate for the interests of the College Fund that although there has been a law on our statute book for the last two years and over, providing for the sale of the one hundred and fifty thousand acres of land donated to the State for an agricultural college in the same manner as other school lands have been disposed of, yet not one acre of that land has been applied for or sold. This land being by Act of Congress required to be selected from lands subject to sale at private entry, would not probably be applied for and sold under the present plan for a long term of years, and the college would thus be deprived of the benefit of the money to arise therefrom. It is hoped the Legislature will adopt an entire different policy in regard to this land from the one

which has been the cause of so much trouble to all who have had anything to do with the land embraced in other donations. Let this land at least be kept clear from difficulty, and let it be so managed that when sales are made titles can be given, and the money received for the benefit of the College Fund.

In our opinion, the following plan will accomplish this object: Let the Legislature provide for the appointment of a College Land Agent, who shall obtain from the Registers of the several General Land Offices in the State a list of all the land which is or may be subject to sale at private entry, and when this Agent shall find land in this condition, and desirable and valuable from its probable early availability for the purposes of the grant, let him locate and enter it in the name of the State of California, and through our State Land Office obtain a title to the State. And when a title to a sufficient number of acres has thus been obtained to make it an object, let the same be advertised and sold by our State Land Register, and the money received be invested in accordance with the requirements of the law making the grant.

Such a plan is perfectly simple and straightforward, and, if adopted, we have no doubt the whole of this grant may be obtained by the State and sold, and the proceeds realized for the benefit of the college, before the difficulties in regard to the other grants between the State and General Government can be disposed of.

A COLLEGE FOR THE BENEFIT OF AGRICULTURE AND THE MECHANIC ARTS—OR AN INDUSTRIAL COLLEGE.

To secure to California the congressional donation for this purpose, the necessary preliminary steps for the establishment and organization of an Industrial College must be taken by the present Legislature. It seems to be admitted on all hands that this will be done. This being assumed, the most important questions for consideration in this connection are:

First—The character of the institution demanded by California, or the leading objects to be embraced in its organization and management;

Second—Its location, with reference to these leading objects;

Third—Its endowments, or funds necessary for its support.

In preparing for the establishment of an ordinary college or literary institution, the objects of such institution being so well defined and generally understood, and so similar the world over, the work is comparatively plain and easily accomplished, the one great question in every country being to obtain the necessary means. This being accomplished, all else will follow, as it were, in a well beaten track or well defined channel.

Not so as regards Industrial Colleges. They are institutions of comparatively a late date, particularly in this country. The objects of these colleges being to educate their students in those sciences and arts which will best prepare them for the thorough and intelligent development of the natural resources of the country in which each is located, it follows that the organization and management of an Industrial College in Germany or France would not serve as a precedent or model for the organi-

zation and management of an Industrial College in the United States. Nor would a college so organized and managed as to meet the requirements of such an institution in the State of Michigan, Pennsylvania, or New York, meet the demands or accomplish the objects of an Industrial College in California. A student so thoroughly educated as to be able to take an intelligent and leading part in the development of the most important industries in France or Germany, or in either of the States named, would be required to forget much he had learned, and take new lessons in our college, to be of much use here, or to occupy a like important or leading position in the development of the principal resources of California. It is true, a University *may* be established and so equipped with professors and facilities as to be able to take its students to the utmost limits of human knowledge in all its various departments; but such an institution is more of an ideal than a reality. The most liberally endowed and thoroughly appointed universities of Europe do not pretend to this, even in theory, and certainly they do not and cannot accomplish it in practice; and the best of our colleges and universities—Yale, Girard, and Harvard—with endowments ranging from a million and a half to two millions of dollars, and with from forty to fifty professors each, can scarcely be compared in thoroughness and efficiency, especially in the scientific departments, to the better class of similar European institutions.

An Industrial College, then, such as we are about to establish in California, must, at least for the present, be more limited in its objects, and should partake in an eminent degree of the qualities of utility and practicability. It should be made to conform in a most rigid manner to the subjects necessary to the development of our leading and most important resources. It should, however, be the aim and purpose to so organize and equip it in the beginning as to render it competent not only to lead students to the limits of human knowledge upon the subjects of agriculture and the mechanic arts, mining in all its departments included, and both taken in the most extensive sense, but also to so fortify them with all the sciences in any way connected with or tributary to these arts or industries, as to enable and prepare them to go on in advance with original investigations and experiments, and thus become leading scientific inventors and discoverers in the anomalous and almost unlimited fields presented for study and practice, in these departments, on this coast.

In the establishment of an Industrial College for our State, or for the Pacific Coast, California should and doubtless will be the pioneer in this enterprise west of the Rocky Mountains; the representatives of no particular industry or locality should be selfish or contracted in their views or actions. The agriculturist should remember that we have on this coast not only the most extensive mineral regions known in the world, but that we have a greater variety of mines of valuable metals embraced in an equal extent of country than has been or probably can be found in any other part of the globe. That these minerals found are so combined and intermixed with each other and with worthless matter, as frequently to resist the most skilful attempts to separate and successfully and economically work them, by the application of the most approved methods known to men best versed in the analytical sciences applicable to the art of the metallurgist. That the location, dip, and anomalous positions of our mineral bearing ledges frequently confound and disappoint the most scientific and skilful mining engineers the world has produced, and cause ruinous outlay of labor, time, and means. That for the want of men prepared by study and practice upon the ground to select or manufacture

and erect and skilfully superintend the necessary machinery, for the want of a supply of skilled labor to do the necessary work in the exact manner required, the mines of California are to-day producing but thousands where they should produce millions.

That we are subject to great expense in transporting immense quantities of ores to the old countries for reduction, and are paying millions of dollars to labor in foreign lands, when all these mechanical operations should be intelligently accomplished, and all this labor should be artistically performed in our own borders, and all this money be retained and circulated among our own people. In short, that the great centre of mineral wealth of the world should also be the great centre of mineral knowledge and art—that a greater than Swansea should be built up and maintained in California. To accomplish these objects requires the necessary knowledge and skill, and these can only be attained by application and study, and practice in the proper direction, and with the necessary facilities. To furnish these facilities, the Industrial College, to be established and sustained in California by the means and patronage of the whole people, and for the benefit of all the industries of the State in proportion to their present or prospective relative importance, should be so located, organized, and managed as to give to mining and all the sciences and arts connected with it their full share of attention and consideration. An increase of knowledge in mineralogy, in the broadest sense of the term, should be, if not the first, certainly one of the first objects of the institution.

The *miner* in turn should remember that California presents the greatest variety of soils, lying under the greatest differences of climate, and consequently is possessed of more extended agricultural resources, and is capable of growing more diversified agricultural productions, than any other equal portion of the earth's surface known to man. That the lessons in agriculture, learned by theory or practice in any other country, are of but little value here. That the science of agriculture is the foundation of all other sciences. That agriculture itself is the great basis upon which all other arts are constructed and sustained. That agriculture feeds every other occupation; that it gives life and energy to the skilled engineer, who points out the location of the precious metals, and lights the torch of the miner who penetrates the deep caverns of the earth and brings those metals to the surface. That the more science, intelligence, prudence, and economy applied in the agricultural pursuits, the less the cost of feeding, clothing, and sustaining all other occupations, and the more labor will be spared to engage in other employments to increase the wealth of the State. That the agriculture of California can and should be so revolutionized and improved as to produce, in the greatest abundance, all the necessities and luxuries demanded by her citizens for consumption, and thus retain within our borders millions of dollars annually exported for the products of other soils prepared by the labor of other people.

The improvement of agriculture, equally with the improvement of mining, should form another leading consideration in the establishment and conduct of the Industrial College; and these two great leading industries being provided for, all others, including commerce, the trades, and learned professions, will naturally assume their proper position and receive their share of consideration.

LOCATION, WITH REFERENCE TO ITS LEADING OBJECTS.

It having been determined that the leading objects of the college shall be the education of its students in such a manner as practically to prepare them for the great work of intelligently improving and developing the mineral and agricultural resources, it naturally follows that its location should be such as will best accommodate these great industries. It should be as near as possible the geographical centre between them, taking into consideration facilities for reaching that centre by easy and rapid conveyance from all or the principal mineral and agricultural portions of the State. It should be easily accessible to the mines, for the reason that those students who are pursuing a course of study with reference to mining as an occupation, should frequently be accompanied to the mining regions by their teachers, that they may see and practically be taught the application of the facts and principles they have been learning from their text books and in the classrooms. This advantage will constitute the principal difference between teaching mineralogy, geology, and mining, as applicable to California, in an institution established with especial reference to these objects here, and in teaching the same subjects in an Industrial College in Germany. The practical illustration and real business operations of life, upon the very ground on which the student is to engage in those operations, when he shall have graduated and is seeking fields of employment, is what should be ever kept in mind in the management of an Industrial College. If we lose sight of this great principle, and fail to so locate the institution that these advantages may be enjoyed by those who desire them, we abandon the very objects for which the college is to be established. The practical, living experience of the miner, and the extensive reading and general knowledge of the professor of geology, mineralogy, and metallurgy, must be constantly associated together, and go hand in hand, or our Industrial College will fail to present to the miner any advantages over an ordinary literary institution.

When we consider the location with reference to the interests of agriculture, we find reasons, if possible, of a more forcible character than those above named in reference to the mining interests—reasons that would determine us most positively to reject some localities and accept others. To teach agriculture in any country practically, it is evident we must have the soil to do it on, for agriculture is the cultivation of the soil; consequently there must be a farm connected with the college. Not as a model farm, in the usual acceptance of the term; not as a means of affording the students the opportunity of paying a portion of their expenses by labor, though as an incident to the main object this opportunity may and should be afforded; not for the sake of furnishing for the student manual labor to preserve a robust constitution and good health, though this, too, will be an incident, and an important one; but the real or principal object of the farm should be to illustrate by practice the principles and sciences the student learns in his text books and recitation rooms. The farm should bear the same relation to the studies pursued that the experimental laboratory does to the study of chemistry. In fact, it should and will serve as an extensive laboratory, and the one prepared by nature, and in which the student will be called upon to make his agricultural experiments when he goes out into the world as a teacher to teach the generality of farmers the lessons he has learned at the college—the field in which he should be prepared to take the lead and

become an original investigator, to add new facts and establish new theories in the agriculture of the State.

In this light the farm becomes as necessary to the success of the student in agriculture, as the diagram to the student in geometry, or the slate or blackboard to the learner in written arithmetic. An agricultural college without a farm attached, would, indeed, be an absurdity, and particularly so in California, where the agricultural theories applicable to other countries are of so little value, and where experimental farming is but in its infancy, if, indeed, it can be said to have been commenced, and where the entire future success of agriculture depends upon intelligent and accurate experiments in the soils and climates of California.

Having decided upon the necessity of a farm in connection with the college, let us consider the circumstances that should guide us in the location of that farm, aside from, but not forgetting, its accessibility to the agricultural and mining portions of the State.

Agricultural experiments, to be of the greatest practical value to any particular farmer, should be made in the same or similar climate and soil to those in which that particular farmer is to conduct his agricultural operations, with those experiments as a guide.

But California possesses so many soils and climates that it will be impossible to exactly suit every individual or every location in this respect. The nearest we can come to it as to climate will be to select a medium—something between the damp fogs of the coast counties and the dry heated air of small valleys, surrounded by ranges of hills or low mountains. A location in which these two general extremes meet, and, as it were, neutralize each other, and yet where the essential properties of both are retained, would be the most appropriate as to climate.

As to soil, we can do much better. There are localities in the State in which a farm of four or five hundred acres can be found, embracing nearly all the varieties of soils we have. The rich alluvial river bottom, the mucky tule land, the stiff adobe, the red clay and decomposed granite, the dry sandy soil, and the alkali. A location embracing all these varieties of soil and a medium climate, central and easily reached from the agricultural portions of the State, should undoubtedly be the one selected. The selection of any other would be a grave error, and would jeopardize the advantages we hope to derive from the college. But no location should be selected until all desirous of securing it have had fair and full opportunities to present their claims and advantages, and have them fully and fairly examined and canvassed; nor until all have had an opportunity to make the best pecuniary propositions they can afford, and then the matter of location should be decided in a manner to give no reasonable grounds for complaint from any locality or class of citizens; for, to make the institution what it should be, a benefit and a source of pride to all our people, it will need the hearty good will and active co-operation of all. Nothing should be done in this respect hastily, or with a view to benefit any particular locality at the expense of the general interest. The Industrial College will be a State institution, will be to a certain extent, for some time at least, dependent on the State for pecuniary aid, and will therefore be under the general supervision of the Legislature, and should be as convenient and accessible to the members as it can be, other considerations being equal, or the combinations of circumstances and conditions above enumerated being also secured.

THE ENDOWMENTS OR FUNDS NECESSARY TO THE SUPPORT OF THE COLLEGE.

Nature and the surrounding circumstances, and the more immediate wants of our State having led us to select agriculture and mining, and the sciences connected with and necessary for a complete knowledge of them in all their departments, as the leading and governing objects in the establishment of an Industrial College for California, it must not therefore be inferred that we disregard any other calling or occupation, or would leave out of our plan of organization the necessary provision for giving them their proper share of attention.

On the contrary, a complete system of industrial education, such as we should aim finally, and as we can command the means to establish, should embrace the facilities for teaching all that is necessary to know or all that can be known in regard to the whole range of industrial operations of civilized life.

It should embrace the entire range of human knowledge, as applied to human industry in the most advanced position of civilized society. It should be prepared to keep pace with the most advanced scope of human thought.

It should embrace within its plan the ability and facilities, not only to teach the *art* of doing all that man, as the representative of the human race in his most educated position, can do, but it should also possess the ability and the facilities for teaching the reasons why, as comprehended and explained in the entire range of the natural and physical sciences upon which all the operations of civilized life are based. With a plan of such magnitude as to embrace the entire range of the physical and natural laws and sciences before us, we should take up the consideration of necessary endowments or funds for the support of an Industrial College in California.

While we are fully and painfully cognizant of the fact that we cannot hope to *commence* with all these plans and facilities, or to put them all in operation for a number of years to come, still we should not fail to keep the magnitude of the undertaking before us, and work with a determination *finally* to reach that elevated standard.

With such an exalted and thorough character for an Industrial College, it is evident that the endowments necessary for its support cannot be less than are required for a first class literary institution. In fact, the necessary experimental apparatus and materials for practically teaching the sciences, will render the expenses of such a college greater than those of a literary character, with an equal number of students and professors. In order that this branch of the subject may be considered with a just idea of its prospective magnitude, we insert for examination the following table from a report upon a plan for the organization of Colleges for Agriculture and the Mechanic Arts, addressed to the Board of Trustees of the Agricultural College of Pennsylvania, by the late Dr. E. Pugh, at that time President of the Faculty of that institution. This report was made in January, eighteen hundred and sixty-four:

T A B L E
Showing the educational resources of the more prominent American colleges.

COLLEGES.	Number of Professors.....	Number of Students.....	Paid Professors and Teachers..	Amount of endowment.....	Annual expenses.	Number volumes in Library.....
Bowdoin College.....	18	180	\$13,000	\$182,000*	\$17,907	30,595
Dartmouth College.....	20	507	68,000	217,667	153,431	35,402
Harvard University.....	56	833	.....	1,613,884	18,500	149,000
Amherst College.....	17	229	.....	590,000*	86,000	30,000
Brown University.....	12	202	.....	220,000	78,000	37,000
Yale College.....	40	617	52,000	1,650,666	79,269	75,000
Columbia College.....	43	689	42,000	250,000*	14,011	18,000
University of the City of New York.....	36	488	19,400	658,000	52,590	10,000
New York Free Academy†.....	25	916	10,950	123,224	30,000	18,000
Union College.....	17	276	.....	408,000	13,408	7,000
Rochester University.....	11	160	.....	.....	.....	.....
Vassar Female College.....	13	221	.....	306,654	26,844	22,200
Princeton College.....	28	642	.....	2,000,000	23,430	8,000
University of Pennsylvania.....	19	502	.....	600,000	85,000	.....
Philadelphia High School.....	13	400	.....	427,625	40,000	8,000
Girard College.....	13	400	.....	.....	.....	.....
University of Michigan.....	27	286	.....	.....	.....	.....
University of Illinois.....	38	.....	.....	.....	.....	.....

* In these, some property which does not afford any income is included.

† This institution is wholly supported by the City of New York.

It will be seen that the average amount of endowment fund for the eighteen institutions embraced in the above table is over six hundred thousand dollars, while the average annual expenses is forty-seven thousand seven hundred and forty-two dollars. The average number of teachers employed is over twenty-five each, and the average number of students in attendance is four hundred and thirty-four. In his comments upon the resources of these institutions, Dr. Pugh remarked: "Had we time to examine closely into the details of the workings of these institutions, as exhibited in their annual reports, we would find in all of them the most indubitable evidence of the insufficiency of their resources for the accomplishment of the mission they are laboring to fulfil. Whether we examine their linguistic, their literary, or their scientific departments, or any one of the several professional schools which some of them have, we will find in all of them an absence of that *thoroughness* which characterizes the highest order of study. With very few exceptions we will find professors obliged to teach too many different things to teach *anything* very thoroughly, or to keep themselves posted on the progress of knowledge in their own department in the learned world. If confirmation of the insufficiency of their resources were needed, we have it in the constant efforts that nearly all of them are making to secure additional pecuniary aid."

To support any one of the above named institutions in this State, or to support an Industrial College of a character and with facilities equal to the average of those embraced in the above table, it is evident the annual expenses would be largely increased. Everything connected with the general expenses of the institution would cost considerably more here than it does in the Atlantic States, and the wages of professors and teachers would have to be considerably increased. As will be seen by the table, the fifty-six professors in Harvard University receive only sixty-eight thousand dollars, or on an average one thousand two hundred and fourteen dollars each per annum, equal to but one hundred and one dollars per month. By the report of the Superintendent of Public Instruction of California, we learn that the average salary paid the male teachers in our common schools is seventy-four dollars per month, or only twenty-seven dollars per month less than the average wages paid the professors in the first university in America. It is quite doubtful if one hundred thousand dollars per annum would command the services of the Harvard corps of professors in a similar institution in California.

With all the foregoing considerations and figures before us, we are to decide in the first instance whether California shall have an Industrial College of a high standard, embracing within the scope of its teachings the greatest range of scientific and practical subjects, or whether we will be content with an institution of a lower grade, more contracted in the number and variety of subjects taught, and consequently more limited in its sphere of usefulness.

The position we occupy, and the importance of the products of our industries to the world, in our opinion demand an institution of the former character, and we have but little hesitation in expressing our conviction that it will be found in the end not only the wisest but the most economical course.

An institution of a high character always has great attractions, not only for superior professors and students, but for large and liberal private endowments, while one of an inferior character seldom has much attraction for and is seldom crowded much with either.

It having been urged that the Industrial College should be located in

our most populous and opulent city, in order to secure in future years liberal endowments from its wealthy citizens, it may not be improper to state, what every one will recognize as a universal truth, that after an institution of learning has been fixed at any particular location, the *fact of location* ceases to be an inducement for donations; while, if the location be fixed upon with strict reference to its adaptability to the objects and success of that institution, and the institution itself be so organized and managed as to secure a high character and promise great practical benefit to the State and future generations, it commends itself to the judgment and furnishes a constant and powerful appeal to the pride and liberality of those who have the disposition and means to assist worthy educational enterprises. Institutions of learning never become famed or renowned for their location only, but rather because they secure and judiciously use the elements of success and greatness, and promise and accomplish great good to mankind.

No man ever desired to associate his name by endowment with an educational institution because of its *particular location*, but rather that the institution endowed might become the certain and honorable bearer of his name down to posterity as the benefactor of his race—something in the same spirit that a high minded and intelligent father feels a pride and joy in the perpetuation of his name, through the useful and noble deeds of a worthy, honored, and successful son.

It having also been urged as a reason for locating the Industrial College in San Francisco that the climate there is more "bracing and healthy, and better fitted for sustained study and intellectual effort than that of any other part of the State," we hope it will not be considered improper in this report, while speaking especially for the interests of the industrial classes, to notice this argument and probe its defects. If this reason be good in reference to this college, which is intended principally for practically teaching the miners and the farmers, and their sons, in the several arts and sciences which relate to their respective callings, and which can only be thoroughly done on the one hand by a frequent recourse to and an examination and work in the mines themselves, as the most valuable laboratory for the mining student, and on the other hand by a constant and continued system of experiments on the farm and in the garden, as the best laboratory for the agriculturist and horticulturist, then with how much more power such a reason would apply to all the mere literary institutions of the State—including the numerous newspapers and journals of the interior—to the religious organizations whose lay members depend on the study and research of their ministers for correct instruction in the divine truth—to legislative bodies, upon whom the people depend for wise and beneficent laws, and to legal tribunals, who are expected to perform the almost impossible task of reconciling and expounding those laws? If such reason or such argument be sound, then every man in the State who is pursuing a calling which requires intellectual study or research should remove at once to that particular locality for relief, leaving all other portions of the State to be inhabited and developed by physical labor alone, by the mere machines of society, who are governed and controlled by instinct rather than intellect and reason.

Such a reason, followed to its legitimate results, should lead to the establishment of this institution in some colder and more bracing climate than we have within our borders, and as it seems to ignore the real objects of the institution itself, perhaps it would call upon us to go to the highlands of Scotland—to the great City of Edinburg, which is said to

have a very bracing climate, and which is distinguished for producing some of the most profound thinkers and scholars of the world, and there plant our Industrial College for the practical education of the future miners and farmers of California.

To go into a populous commercial city, where the students will be entirely removed from the fields of their future operations and all the healthful influences of the country, and constantly exposed to all the enervating luxuries and contaminating vices of city life, so well and surely calculated to unfit them for the energetic and successful pursuits of their future callings, to establish an Industrial College for the practical and experimental education of those who are to become the leaders in developing the vast mining and agricultural resources of California—seems to us a proposition so absurd that we can scarcely believe it to be sincere, especially if it be made by persons claiming the benefits of a climate so peculiarly and exclusively calculated to promote and sustain vigorous intellectual effort, or practical and useful thought.

While we would urge no location, for the particular benefit of that location, and unless it be one calculated to promote the general good, we do protest in the name of the industrial classes of the State, in whose interests we have a right to speak, against fixing a college, to be established particularly for their benefit, in such a location as will surely defeat the real objects for which it is intended.

A failure on the part of the agriculturists and miners, occupying the broad, salubrious valleys, and the invigorating mountainous regions of the State, thus to protest against such a proposition, involving, as it does, a double injury and insult to them, would, in our judgment, be an unanswerable argument in favor of the truth of the absurd proposition which has called forth these remarks—namely, that this great and noble State of ours, celebrated alike for the invigorating influences of its climate, and the general intelligence and practical and penetrating business energy of its people, has but one place or locality in it "fitted for sustained study and vigorous intellectual effort."

But, one more remark upon the proposition in general of establishing an industrial or scientific college in a city in preference to the country: "God made the country; man made the city."

Are God's or man's laws proposed to be taught in the institution? If the former, then certainly the college should be located in the country, where the works of God, or the Book of Nature, can be used as the most important, as it is the only absolutely correct and never failing text book, to which the student, when he goes out into the country and engages in the business for which he has been educated in the college, will have constant occasion to refer.

If, however, the laws, or ways and customs of the residents of cities, usually adopted in dealing with the miner and the farmer in reference to their respective possessions or productions, are the subjects to be taught in the college, then we confess it should be located in the city—and the State may thus avoid the immediate outlay of any of the means it has now or may hereafter have on hand for the erection of buildings for such college, as the streets are a much better and more efficient school to learn such things than the inside of any collegiate walls can be. This fact will prove a happy circumstance to the State, as she will, if she adopt this course, at no distant day need all the money thus saved with which to enlarge the capacity of her State Prison—a necessity for which will thus be created.

Upon this point Mr. C. L. Flint, late Secretary of the State Board of

Agriculture of Massachusetts, who went to Europe to collect information in regard to the establishment of Industrial Colleges, says in a report to the Board:

"The industrial schools in Europe have not been located in the vicinity of its largest cities. The purpose of this is obvious, for, besides the increased expenses to the pupils, the incentives to the waste of time are greater, and the temptation to immorality increased a hundred fold. The nearness of a city, through its show of great wealth, is calculated to lead the mind of the student to speculative pursuits, and to create a distaste to those industrial occupations whose gains are slow and toilsome."

Another expedient, under the pretence of assisting in the endowment of an Industrial College, has been suggested. It is to make over or donate to some existing literary or denominational institution, in consideration of their granting the use of a part of their buildings for a scientific department, all the proceeds of the land donations of Congress. We are informed that some of these institutions have already nominally established scientific chairs, or departments, in anticipation of such an event, or to induce it, and have at this time their advocates in and about the State Capitol, looking after their interests in this respect. To all such we would put the question whether they are actuated with a desire to assist the State by such an arrangement, or whether they are not in the position of the man who had been in business on his own account until he had become hopelessly involved in debt, and now wishes to find some one with a little ready cash to take in as a partner, that he may lead a more easy life?

And if such institutions be of a sectarian character, as we believe all the colleges in the State are, we would ask the additional question—what reason can be given why one sect should have the benefit of the endowment of the Government more than another? and how that provision of the Constitution, that no preference shall be given to any sect or profession, can be reconciled with such an act as the one asked?

Upon this subject we have the very best of authority. The late Professor Pugh, who was very instrumental in procuring the passage of the College Land Act through Congress, says in his report: "The object of the bill was, *most distinctly*, not simply to found industrial chairs in literary colleges, but to endow industrial colleges."

He adds: "No sooner was the bill passed, than in some States the representatives of several literary colleges, with singular bad taste, made a general rush to the State Legislature to secure a portion of the proceeds of the bill, and in the general scramble for a portion of the spoils, in some instances, defeated all legislation upon the subject. That literary institutions should, with such undignified haste, grasp at resources (secured for the endowment of Industrial Colleges) to which they had not the *slightest legitimate claim*, is a melancholy illustration of the terrible extremities to which they are driven in the struggle for existence. It should warn those States which would found State Industrial Colleges to endow them properly; and not cast them into the world to struggle in poverty for existence, guided by a necessity which knows no law and recognizes no right."

"For what are the claims of the literary colleges upon the Land Grant Fund? Can they afford the kind of education required in an Industrial College? Can they organize the four or five different courses of study required to meet the peculiar necessities of an Industrial College? Can

they, with their half dozen professors, do the work which fourteen first class scientific men are required to do, in addition to teaching all their literary studies? No! They would only degrade industrial education to the standard upon which they have heretofore looked with merited contempt. They might well compare the victims of their superficial smattering with the regular students of their classical course, as illustrations of how much better the study of Latin and Greek is for mental discipline than the study of anything else."

A thoroughly appointed and really practical Industrial College in California, established independently as such, and possessing the facilities for teaching all the best methods of manipulating and reducing the ores and extracting the metals, and with men at the head of each department thoroughly trustworthy, who will command the confidence of capitalists and business men everywhere, and who are not only capable of teaching all that is known in their respective departments, but who are also competent to take the lead and make new discoveries, and improve on old systems and practices, would not only secure the patronage of all our own people who desire information upon the subjects taught, but it would attract students and eminent and practical scholars and business men from all parts of the world. They would come here to avail themselves of a practical special course in the college, preparatory to engaging in profitable enterprises presented to such persons by the inexhaustible riches of our mineral regions, or the attractive features of our agricultural resources. Having examined and indicated the general character of the Industrial College demanded by California, and having pointed out the general requisites and characteristics that should be secured in its location, and having shown the resources and expenses of some of the best American colleges, and endeavored to prove that an Industrial College of a high character would need no less resources and would be subject to no less expenses, we would call attention to the professorships necessary to be established and maintained to secure an institution of such a character. In doing so we have recourse to a full plan for organizing Industrial Colleges, recommended by the late Dr. Pugh, who spent six years in examining and studying similar institutions in Europe previous to being called to the Presidency of the Agricultural College of Pennsylvania. His plan in full should be attentively studied by those who may be intrusted with the responsibility of organizing the Industrial College of California, but is too lengthy to embody in this report, which is already more extended than we intended it should be.

First—The President: a man thoroughly versed in the Natural and Physical Sciences—the responsible head of the college.

Second—A Professor of Pure Mathematics and the Higher Mechanics and Astronomy.

Third—A Professor of Civil, Hydraulic, and Military Engineering, and Applied Mathematics.

Fourth—A Professor of Natural Philosophy and Astronomy, Mechanics, and Physics.

Fifth—A Professor of Pure and Agricultural Chemistry and Geology.

Sixth—A Professor of Metallurgy, Mining and Mineralogy, and Chemical Technology.

Seventh—A Professor of Anatomy, Physiology, and Veterinary.

Eighth—A Professor of Natural History, more particularly Zoology, Comparative Anatomy, and Entomology.

Ninth—A Professor of Botany, Horticulture, and Entomology.

Tenth—A Professor of Practical Agriculture and Meteorology.

Eleventh—A Professor of English, French, and German Languages and Literature.

Twelfth—A Teacher of Bookkeeping and Practical Commercial and Trade Accounts, Political Economy, and Commercial Law.

Thirteenth—A Treasurer, Secretary, and Librarian.

Fourteenth—Necessary Assistant Professors and Superintendents, say twelve, including a Teacher in Military Tactics.

We are now prepared to present an estimate of the annual expenses of an Industrial College of the number of professors indicated above, with the corresponding educational facilities, with California prices as a basis:

ANNUAL EXPENDITURE.		
Thirteen Professors and Teachers, at at average of \$2,400.....	\$31,200	
Twelve Assistants and Superintendents, at \$1,200....	14,400	
Total salaries.....		\$45,600
Annual additions to museum, and scientific apparatus and library.....	\$5,000	
Scientific investigations and assaying.....	5,000	
Incidental expenses and repairs.....	5,000	
Total.....		\$15,000
Total annual expenses.....		\$60,600
ANNUAL INCOME.		
Three hundred students, at \$100 each.....	\$30,000	
Interest on proceeds of seminary lands, (\$57,000,) at seven per cent.....	4,032	
Interest on proceeds of college lands, one fourth at seven per cent, and three fourths remaining on the credit of purchaser, at ten per cent.....	17,343	
Income from the metallurgical and assaying departments, in competent and perfectly reliable hands, say.....	5,000	
Income of farm, well managed; and private endowments.....	4,225	
Annual income to balance.....		\$60,600

In the above estimates of income we have assumed that the Seminary Fund will be appropriated and used as an endowment for the college; and while we can see no objection to such a course, we can see many reasons in its favor. The land was donated to the State for a "Seminary

of Learning," which Webster defines to be "any school, college, or university, where young persons are instructed in the several branches of learning which may qualify them for their future employments." This certainly is a perfect description of the institution we propose to establish.

We have also assumed that the one hundred and fifty thousand acres donated for an Industrial College will be disposed of at one dollar and twenty-five cents per acre, which we believe can easily be done within five years, if the plan proposed in a former part of this report be followed.

There are plenty of lands in the State, of a good quality, subject to sale at private entry, and if such lands be looked up and a title obtained in the State, there will be found plenty of purchasers, as none of the difficulties of title which attach to lands of every other class will attach to these. The above estimate of expenses and receipts is intended as a sample of what we think the Secretary's book should show in regard to the financial transactions of an Industrial College adapted to the interests and necessities of California, say five years from the date of opening, or in eighteen hundred and seventy-two. It will cost the State some money to establish a college and put it in such an advanced stage of success and usefulness as indicated in that time, but we believe that the amount required cannot be expended to a better advantage. An institution of an inferior order would prove of but little benefit to any one—of no credit, and great expense to the State. Unless California can afford to establish a first class college for the instruction of her industrial students, then she had better not establish any at all, but continue to allow her millions of money to be returned to the earth annually in the future as in the past; her thousands of valuable mines to remain untouched for the want of the proper skill to work them; continue to ship millions of her valuable ores to foreign countries, to be reduced by foreign labor and capital, and send her sons along with them to learn what they ought to learn much better and cheaper at home; to allow her agriculture to languish and grow poor, to become distasteful and be actually spurned and avoided by her most worthy and capable young men, and continue to export millions of dollars annually for articles that ought and may be produced within her borders. We believe with Mr. C. L. Flint, who says, in his excellent paper on this subject, that "*the Industrial Colleges must at once assume the highest rank as educational institutions, or they will prove most expensive failures.*"

As we have submitted an estimate of the expense of working a first class college when established and equipped, and pointed out the sources from which such expenses could be met, we will venture to suggest the amount of means necessary to provide the proper buildings and organize and bring the institution up to the standard indicated, within five years from the date of opening, at the expiration of which time it is proposed to make it sustain itself, independent of any appropriation from the State Treasury other than the interest on the lands donated by Congress.

EXPENSE.		
Value of farm, say 300 acres, and improvements, other than buildings.....	\$25,000	
Buildings, for all purposes, to commence with.....	100,000	
Laboratory and apparatus for chemical and assaying experiments and work.....	6,000	
Library.....	4,000	
Incidental expenses.....	5,000	
Original outlay before opening.....		\$140,000
Average annual expenses for first five years, or to 1872, (\$40,000 per year).....		200,000
Whole expense for organization, and five years' management,		\$340,000
INCOME—SOURCES FROM WHICH DERIVED.		
Interest on Seminary Fund to date of opening college, say April, 1867.....	\$32,256	
Appropriation for 1866.....	100,000	
Donation by place receiving location, including donations of surrounding counties and individuals...	40,000	
Annual interest on Seminary Fund from 1867 to 1872, \$1,032.....	20,160	
Interest from sale of college lands for first five years, say	35,000	
Income from metallurgical and assaying department, first five years.....	5,000	
Income for rent, or use of farm	4,000	
Annual appropriation of \$20,000.....	100,000	
Private endowments.....	3,584	
Whole income for organization and five years' management, to balance.....		\$340,000

If the present Legislature were to establish or incorporate the college, and incorporate a Board of Regents, consisting of good intelligent, business men, who will be influenced by no political, sectarian, local or personal considerations, to locate and organize the same, and place at their disposal the interest of the Seminary and College Land Funds, as above indicated, together with the appropriations from the State Treasury, as above set forth, we have no doubt that in the year eighteen hundred and seventy-two the State of California may be realizing all the benefits to arise from the successful operation of an Industrial College of a high character, and will be relieved from the necessity of appropriating another dollar for its assistance.

And now, in closing this report, we will say, with Mr. Flint of Massachusetts, only changing the language to apply to our particular case, that the work of properly establishing an Industrial College for California is one of great difficulty and responsibility, and one in which the

parties on whom the responsibility rests will need the confidence, the forbearance, and the cordial co-operation of the people. It will require caution, judgment, and practical wisdom on the one hand, and a candid appreciation of the difficulties, and reasonable expectations on the other. It will require faith in the application of science to the improvement of practice. We know that it has elevated other arts, improved the appliances of labor, and cheapened the production of the necessities of life.

Why should it not lead, in a reasonable time, to more enlightened processes of mining and farm work, bring mind and thought to bear upon the labors of the hand, and infuse new spirit into the whole mining and farming community?

THIRTEENTH ANNUAL MEETING.

SACRAMENTO, }
Tuesday, January 30th, 1866. }

The meeting of the members of the society having been called for this day, was called to order at two o'clock and twenty-five minutes, P. M., in one of the side rooms of the Pavilion building, by the President, C. F. Reed, of Yolo, who said:

GENTLEMEN:—We have assembled for the purpose of electing officers of the society for the incoming year, and the transaction of such other business as may properly come before this society. The first business in order will probably be the report of the Board of Directors. Here I would say that the report has been published in pamphlet form, by a vote of the Legislature, but the issue is not out in sufficient quantities to give each member a copy of the report. The Secretary will now lay before you the supplementary report of the Board of Directors.

The Secretary then proceeded to read the report, and had read a considerable portion thereof, when

A. C. Bidwell moved that the further reading of the report be dispensed with, which motion was carried.

SUPPLEMENTARY REPORT OF THE BOARD OF DIRECTORS.

GENTLEMEN:—Having made a report to the Governor, as required by law, and the same having been printed by order of the Legislature, we beg leave to submit the same as a portion of our report to the members of the society.

We also submit the following financial reports of the Treasurer and Secretary, which show in detail the receipts and disbursements of the Board for the year eighteen hundred and sixty-five, and to date, and the present financial condition of the society:

REPORT OF THE TREASURER.

STATE AGRICULTURAL SOCIETY,

In account with R. T. BROWN, Treasurer.

CR.	
By amount of cash received at various times from Secretary, to date.....	\$22,865 40
DR.	
To amount disbursed at various times upon orders of President and Secretary.....	22,609 05
Balance in cash on hand.....	\$256 35

R. T. BROWN,
Treasurer.

SACRAMENTO, January 1, 1866.

FINANCIAL REPORT OF THE SECRETARY.

I. N. HOAG, Secretary,

In account with STATE AGRICULTURAL SOCIETY.

Date.	On what Account.	Amount.
1865.	CASH RECEIVED.	
January 1	Morrison & Gover, rent of park.....	\$200 00
January 26	Twenty-two memberships.....	110 00
March 7...	Morrison & Gover, rent of park.....	300 00
June 7.....	Morrison & Gover, rent of park.....	300 00
Sept. 9.....	Morrison & Gover, rent of park.....	300 00
Sept. 13.....	Fifteen memberships.....	75 00
"	Entrance fees to Monday's races.....	390 00
"	Nine memberships.....	45 00
Sept. 15.....	Rent storeroom at park.....	20 00
Sept. 16.....	Memberships.....	155 00
"	Subscription.....	28 00
Sept. 17.....	Memberships.....	35 00
Sept. 18.....	Collected at main stand.....	401 80
"	Collected at gate of park.....	313 70
"	Entrance to Tuesday's races.....	210 00
"	Tickets and memberships at park.....	3,296 40
"	Tickets and memberships at hall.....	2,548 50

Date.	On what Account.	Amount.
Sept. 18.....	Subscriptions	112 50
"	S. D. Smith, life membership.....	50 00
"	Rent of cider privilege.....	40 00
Sept. 19.....	Tickets and memberships at park.....	477 00
"	Collected at gate of park and main stand.....	247 00
"	Entries to Wednesday's races.....	320 00
"	Tickets and memberships at hall.....	651 50
Sept. 20.....	Subscriptions.....	100 00
"	Entries to races.....	640 00
"	Rent jeweler's stand.....	30 00
"	Tickets and memberships at hall.....	452 00
"	Tickets and memberships at park.....	324 00
"	Collected at gate of park.....	150 50
"	Collected at main stand at park.....	144 70
Sept. 21.....	Collected at main stand at park.....	179 80
"	Collected at gate at park.....	180 25
"	Tickets and memberships at park.....	316 00
"	Tickets and memberships at hall.....	452 50
"	Rent of soda machine.....	50 00
"	Rent of cider mill.....	35 00
Sept. 22.....	Collected at main stand.....	180 90
"	Collected at gate of park.....	171 70
"	Tickets and memberships at park.....	340 50
"	Purse forfeited.....	250 00
"	Subscriptions	50 00
Sept. 23.....	Collected at main stand at park.....	293 50
"	Collected at gate at park.....	692 65
"	Tickets and memberships at park.....	1,404 50
"	Entries.....	55 00
Sept. 24.....	Subscriptions	205 00
Sept. 26.....	Ball tickets.....	240 00
"	Entries to races, 22d.....	395 00
"	Entries to races, 23d.....	150 00
"	Tickets and memberships at hall, 22d and 23d.....	513 00
Sept. 28.....	Rent of bar at hall	60 00
"	Subscriptions.....	25 00
"	Subscriptions	2,952 50
Oct. 19.....	Subscriptions.....	228 85
"	Subscriptions	71 15
Oct. 24.....	Purse forfeited	200 00
Nov. 11.....	Subscriptions	171 50
Dec. 4.....	Subscriptions	83 50
Total cash receipts.....		\$22,865 40
CONTRA.		
Cash paid R. T. Brown, Treasurer, at sundry times, as per his receipts		\$22,865 40

DETAILED STATEMENT OF DISBURSEMENTS FOR CURRENT EXPENSES AND REDEMPTION OF WARRANTS ON GENERAL FUND.

Date.	On what Account.	Amount.
February 3	H. S. Crocker & Co., for printing.....	\$4 50
"	I. N. Hoag, salary for January.....	150 00
Feb. 27.....	I. N. Hoag, salary for February.....	150 00
March 7...	H. S. Crocker & Co., for printing.....	42 00
"	I. N. Hoag, for expenditures.....	14 49
March 18...	I. N. Hoag, for expenditures.....	22 20
April 4.....	Edwards & Co., stationery.....	9 75
"	H. S. Crocker & Co., printing reports.....	70 00
"	Friend & Terry, for lumber.....	21 54
"	I. N. Hoag, for expenditures.....	9 15
"	I. N. Hoag, salary for March.....	150 00
May 9.....	W. T. Crowell, carpenter work.....	34 00
June 7.....	I. N. Hoag, expenditures	19 25
"	M. Fitzpatrick, painting	23 00
"	Huntington & Hopkins, merchandise	11 63
"	I. N. Hoag, salary for April.....	150 00
August 21..	I. N. Hoag, expenditures	25 00
Sept. 9.....	I. N. Hoag, salary for May and June	300 00
Sept. 12.....	I. N. Hoag, expenditures.....	9 85
Sept. 18.....	Sacramento Gas Company for gas	65 70
"	T. Winters, purse won by Aleck Barnes.....	300 00
"	T. Winters, purse won by Norfolk	1,000 00
"	J. L. Eoff, purse won by Honest Anee.....	500 00
Sept. 19.....	L. G. Butler, purse won by General Evans.....	200 00
Sept. 20.....	J. B. Hinckle, purse won by Sweetbriar.....	250 00
"	C. H. Shear, purse won by Captain Hanford.....	400 00
"	C. H. Shear, purse claimed for John Conness.....	200 00
Sept. 21.....	C. H. Shear, purse won by Captain Hanford.....	300 00
"	J. L. Eoff, purse won by Wm. H. Seward.....	500 00
"	N. Coombs, purse won by Rapidan	150 00
Sept. 22.....	P. Farrell, purse won by Bob Ridley.....	400 00
"	J. L. Eoff, purse won by Anee and Latham.....	500 00
"	A. Stevenson, purse won by Flora.....	250 00
"	T. Winters, ten per cent by Aleck Barnes	75 00
Sept. 23.....	T. Winters, purse won by Norfolk.....	2,000 00
"	John Hall, purse won by Peggy Ringgold	500 00
"	George Howard Goddard, premium.....	30 00
"	John B. Redmond, premium.....	75 00
"	John Searles, premium.....	90 00
"	D. K. McMullen, premium.....	30 00
"	Ed. Roberts, premium.....	135 09
"	A. Musick, premium.....	30 00
"	E. Peirce, premium.....	20 00
"	John Hall, premium.....	115 00
"	J. D. Patterson, premium.....	38 00
"	C. Kitter, premium.....	50 00

Date.	On what Account.	Amount.
Sept. 23....	J. G. McCracken, premium.....	\$165 00
"	W. A. Lattin, premium.....	30 00
"	T. McConnell, premium.....	15 00
"	E. McConnell, premium.....	31 00
"	V. Barnes, premium.....	40 00
"	N. Coombs, premium.....	230 00
"	A. M. & G. B. Stevenson, premium.....	150 00
"	M. Sprague, premium.....	20 00
"	P. H. Murphy, premium.....	20 00
"	M. G. Flower, premium.....	40 00
"	S. Barnes, premium.....	50 00
"	Thomas Edwards, premium.....	50 00
"	D. M. Boyd, premium.....	20 00
"	Diggs & Sutton, premium.....	30 00
"	D. Hobbs, premium.....	40 00
"	J. L. Gandy, premium.....	60 00
"	Mike Bryte, premium.....	88 00
"	D. D. Sutterfield, premium.....	25 00
"	Thomas Cotter, premium.....	60 00
"	E. M. Skaggs, premium.....	50 00
"	J. B. McDonald, premium.....	40 00
"	A. S. Niles, premium.....	30 00
"	M. A. Farmer, premium.....	40 00
"	D. H. Lowry, premium.....	60 00
"	S. Daniels, premium.....	290 00
"	J. R. Rose, premium.....	75 00
"	Aitken & Co., premium.....	46 00
"	E. W. Gavett, premium.....	10 00
"	P. H. Murphy, premium.....	5 00
"	C. E. Chubbrick, premium.....	44 00
"	E. W. Walton, premium.....	10 00
"	Mrs. C. H. Swift, premium.....	3 00
"	Mrs. Mary Jennings, premium.....	38 00
"	A. R. Smith, premium.....	68 00
"	Antonio Peris, premium.....	3 00
"	J. H. Schreiber, premium.....	3 00
"	J. M. Horner, premium.....	5 00
"	Mrs. G. W. Lull, premium.....	3 00
"	Mrs. R. E. Groggins, premium.....	5 00
"	Miss S. Hurd, premium.....	3 00
"	Mrs. E. F. Aiken, premium.....	5 00
"	Thomas Peers, premium.....	5 00
"	J. A. Lancaster, premium.....	30 00
"	C. H. Shear, for self and others, premiums.....	120 00
"	John Newbeaun, premium.....	50 00
"	R. C. Riggs, premium.....	50 00
Sept. 25....	Mrs. W. Windmiller, premium.....	3 00
"	Miss Dolly Browne, premium.....	2 00
"	Mrs. C. A. Tuttle, premium.....	5 00
"	Miss Louisa Meyers, premium.....	3 00
"	Mrs. N. L. Drew, and daughter, premiums.....	6 00

Date.	On what Account.	Amount.
Sept. 25....	Miss Kate Robinson, premium.....	\$3 00
"	Miss L. A. Fox, premium.....	2 00
"	Mrs. J. W. Bryan, premium.....	2 00
"	A. Gaffneisch, premium.....	20 00
"	C. F. Schroll, premium.....	15 00
"	S. Roth, premium.....	12 00
"	S. J. Nathan, premium.....	3 00
"	H. Cronkite, premium.....	10 00
"	George H. Goddard, premium.....	3 00
"	C. Hoyt, premium.....	3 00
"	Horn & Bergman, premium.....	3 00
"	Geo. S. Evans, horse hire and board.....	61 50
"	Wm. P. Coleman, expenditures.....	7 25
"	John Tingman, ticket clerk.....	8 00
"	Geo. Whitlock, decorating hall, and gas.....	50 00
"	Jas. Anthony & Co., advertising.....	202 37
"	Camp Union Band, music.....	400 00
"	J. Morrill, Assistant Superintendent at hall.....	28 00
"	Wilson Flint, Superintendent at hall.....	72 00
"	J. P. Melchoir, music for ball.....	170 00
"	H. S. Beal, collector at stairs.....	24 00
"	D. H. Lowry, collector at stairs.....	24 00
"	D. S. Curtis, doorkeeper and laborer.....	24 00
"	C. A. Stevens, entry clerk at hall.....	40 00
"	Garrett Curtine, labor at hall.....	20 00
"	S. P. Carlisle, entry clerk at hall.....	28 00
"	H. S. Crocker, printing programmes, etc.....	235 00
"	T. J. McKimm, engineer at hall.....	117 25
"	C. Hardenberg, labor at park.....	21 50
"	John McCord, labor and police at park.....	56 00
"	T. W. Hall, collector at stairs at park.....	29 00
"	George P. Warner, ticket clerk at park.....	35 00
"	Joseph Shaw, sprinkling streets.....	48 00
"	Antelope Restaurant, supper for ball.....	425 00
"	Reuben Johnson, labor at hall.....	20 00
"	Mrs. F. Blacklead, badges, etc.....	17 00
"	A. S. Taylor, collector at stairs at park.....	18 00
"	S. W. Burke, ticket clerk at park.....	24 00
"	— Rowley, police at park.....	24 00
"	Edwards & Co., stationery.....	19 75
"	William Edwards, ticket clerk at hall.....	24 00
"	W. T. Crowell, assistant secretary at hall.....	76 00
"	W. T. Crowell, carpenter, and lighting gas.....	94 75
"	E. M. Smith, gate keeper at park.....	24 00
"	John Nickolson, police at park.....	24 00
"	B. R. Crocker, expenditures at park.....	55 25
"	E. Crocker, police at park.....	24 00
"	J. S. Barnes, police and labor at park.....	39 00
"	John Matthews, watchman at hall.....	24 00
"	A. D. Rightmire, superintendent at park.....	69 50
"	David Fall, police at park.....	24 00

Date.	On what Account.	Amount.
Sept. 25.....	B. Dennery, use of crockery at hall.....	\$13 60
"	W. H. Sinclair, police at park.....	15 00
"	A. Campbell, labor at hall.....	44 00
"	John Johnson, labor at hall.....	48 00
"	Hamburger & Co., ribbon.....	1 00
"	Thomas Byrnes, labor at hall.....	52 00
"	Thomas Byrnes, cleaning yard.....	8 00
"	Goss & Lambard, band wheel.....	31 50
"	H. H. Holton, doorkeeper at hall.....	24 00
"	George F. Lang, doorkeeper at hall.....	8 00
"	J. E. Smith, ticket clerk at hall.....	30 00
"	Joseph W. Taylor, stairkeeper at park.....	24 00
"	J. L. Merrill, use of lamps and oil.....	25 00
"	A. A. Wood, gatekeeper at park.....	24 00
"	Lock & Lavenson, canvas on ballroom floor.....	40 00
"	Mrs. M. Cobb, chambermaid.....	24 50
"	J. T. Roberts, doorkeeper at hall.....	24 00
"	David Wood, carpenter at hall.....	40 00
"	C. H. Krebs, setting glass.....	24 75
"	T. Hubbard, entry clerk at park.....	24 00
"	John Isaacs, police at park.....	24 00
"	Chase & Boruck, advertising.....	30 00
"	Daily Bee, advertising.....	48 00
"	— Lobstein, drayage.....	5 00
"	H. Frost, posting bills.....	8 00
"	Gillig, Mott & Co., water sprinkler.....	5 00
"	Wm. Sharp, use of cloth.....	86 29
"	Godechaux & Co., dry goods.....	3 50
"	R. L. Bampton, gate keeper at park.....	24 00
"	D. W. Clark, plumbing.....	39 00
"	Toll's Hotel, use omnibus.....	14 00
"	W. P. Coleman, expenditures.....	28 12
"	Sacramento Gas Company, gas.....	129 60
"	L. Prevost, premium on silk.....	50 00
"	Thos. Coleman, rope tender.....	24 00
"	Samuel Cole, premium on cheese, etc.....	21 00
"	I. N. Hoag, expenditures.....	13 30
"	J. Galler, entrance fees returned.....	50 00
"	Dewey & Co., premium on printing.....	3 00
"	C. F. Reed, expenditures.....	300 00
"	S. Brannan, for steam boiler.....	550 00
"	A. Flobr, keys for cases.....	5 50
"	L. E. Crane, use of horse.....	36 00
"	P. Kelly, drayage.....	5 00
"	G. K. Van Heuzen, use of bed.....	3 62
"	L. K. Hammer, drum sticks.....	3 50
"	Wm. Webster, ticket clerk at park.....	8 00
"	Friend & Terry, lumber.....	130 31
"	O. C. Carroll, gatekeeper and watchman.....	48 00
Sept. 14.....	Geo. Borden, carpenter at hall.....	24 00
"	B. R. Crocker, expenditures.....	229 67

Date.	On what Account.	Amount.
Sept. 14.....	Huntington & Hopkins, merchandise.....	\$17 25
"	Samuel Jelly, polishing silver.....	3 00
"	F. Klotz, wood.....	29 00
"	Geo. Johnson, whitewashing.....	6 00
"	I. N. Hoag, salary, July, August, and September.....	450 00
"	Ed. Mills, for McLane.....	100 00
"	Isaac Galway, rope tender at park.....	10 00
"	P. Kelly, drayage.....	2 25
"	C. F. Reed, expenditures.....	200 00
"	Ed. McIntyre, police at park.....	20 00
"	F. M. Chapman, horse hire.....	30 00
"	Wells, Fargo & Co., envelops.....	1 00
"	T. W. Hall, ticket clerk at hall.....	6 00
Sept. 23.....	E. L. Barber, engraving silver.....	19 00
"	Hamburger & Co., goods.....	2 25
"	Sweetland, for oil.....	75
"	E. Mills, money advanced for purse.....	45 00
October 28	I. N. Hoag, salary for October.....	150 00
Nov. 4.....	T. D. Tyrell, carpenter for ball.....	17 00
"	Wells, Fargo & Co., diplomas and freight.....	51 50
"	E. Lundquist, erasing engravings.....	3 50
"	H. Wachhorst, napkin rings.....	8 25
"	E. L. Barber, engraving.....	6 06
"	D. O. Mills & Co., order to pay Post Office stamps.....	9 29
Nov. 6.....	D. Flint, premium on pears.....	5 00
Nov. 15.....	B. R. Crocker, roofing main stand.....	879 15
Nov. 18.....	George H. Vose, for wood.....	9 00
Nov. 23.....	Mart Taylor, filling fifty diplomas.....	25 00
Nov. 30.....	Wells, Fargo & Co., freight and diplomas.....	46 50
"	Wells, Fargo & Co., freight on books.....	2 00
Dec. 2.....	I. N. Hoag, salary for November.....	150 00
"	H. S. Crocker, printing certificates.....	10 00
Dec. 11.....	Daily Bee, advertising.....	10 50
Dec. 18.....	William H. Thomas, premium on patent.....	5 00
Dec. 28.....	I. N. Hoag, salary for December.....	150 00
"	D. Kendall, premium on quinces.....	5 00
"	Justin Gates & Bro., oil, etc.....	9 75
"	Joseph Hopley, premium on cabinet ware.....	12 00
"	H. Wachhorst, napkin rings.....	6 00
Nov. 21.....	Owen Cunningham, for warrant on General Fund..	15 40
"	H. W. Larkin, for warrant on General Fund.....	817 87
"	John H. Murphy, for warrant on General Fund...	80 86
"	L. Lotthammer, for warrant on General Fund....	147 49
"	D. W. Clark, for warrant on General Fund.....	24 21
"	S. B. Leavett, for warrant on General Fund.....	30 71
"	P. H. Russell, for warrant on General Fund.....	10 00
"	Thomas O. Shaw, for warrant on General Fund...	23 90
"	L. B. Harris, for warrant on General Fund.....	457 29
"	J. D. Tate, for warrant on General Fund.....	21 00
"	N. L. Drew, for warrant on General Fund.....	411 70
"	J. Domingos, for warrant on General Fund.....	10 07

Date.	On what Account.	Amount.
Nov. 21.....	N. A. H. Ball, for warrant on General Fund.....	\$74 00
Dec. 11.....	J. L. Merrill, for warrant on General Fund.....	54 00
"	S. D. Smith, for warrant on General Fund.....	33 04
"	P. Donahue, for warrant on General Fund.....	45 50
"	D. W. Earle, for warrant on General Fund.....	639 15
"	M. T. Cochrane, for warrant on General Fund....	84 67
"	A. Lamott, for warrant on General Fund.....	11 83
"	P. Caduc, for warrant on General Fund.....	39 00
"	Anthony & Co., for warrant on General Fund....	68 74
"	Daily Bee, for warrant on General Fund.....	21 30
"	A. G. Plummer, for warrant on General Fund....	3 94
Total disbursements.....		\$22,609 05
Cash in Treasury, for accruing expenses.....		256 35
To balance.....		\$22,865 40

STATEMENT OF THE FUNDED INDEBTEDNESS OF THE SOCIETY.

Amount of warrants outstanding against the General Fund on the 13th day of January, 1865, including interest.....	\$11,334 65	
Interest to January 1st, 1866.....	857 15	
Total debt		\$12,191 80

Warrants redeemed, including interest :

O. Cunningham, No. 82.....	\$30 83
Lotthammer, No. 30.....	294 98
D. W. Clark, No. 57.....	80 72
S. B. Leavett, No. 12.....	68 25
P. H. Russell, No. 35.....	18 88
J. Domingos, No. —	19 00
T. O. Shaw, No. 14.....	81 00
L. B. Harris, Nos. 181 and 182.....	933 25
N. A. H. Ball, No. —	150 00
J. J. Murphy, No. 37.....	161 72
H. W. Larkin, No. 38.....	2,097 12
J. D. Tate, No. 10.....	35 00
N. S. Drew, No. —	548 93
J. L. Merrill, No. 43.....	90 00
S. D. Smith, No. 85.....	55 08
P. Donahue, Nos. 26 and 36.....	70 00
M. T. Cochrane, No. 15.....	141 12
A. Lamott, No. 95.....	14 64
P. Caduc, Nos. 4 and 24.....	78 00
Anthony & Co., Nos. 10 and 22.....	96 54
Daily Bee, No. 9.....	37 50

A. G. Plummer, No. 90.....	5 63	
D. W. Earle & Co., Nos. 83 and 88.....	852 20	
Amount redeemed by purchase.....	\$5,957 36	
One warrant presented as a subscription by T. Kelly.....	30 00	
Amount of indebtedness cancelled		\$5,987 36
Whole indebtedness, January 1st, 1865.....		\$6,204 44

TREASURER'S SUPPLEMENTARY REPORT,

Made on the 30th January, at annual meeting.

STATE AGRICULTURAL SOCIETY,

In account with R. T. BROWN, Treasurer.

1866.			
Jan. 1	Balance of cash on hand	\$256 35	
Jan. 8	Received cash from I. N. Hoag.....	300 00	
Jan. 29	Received cash from I. N. Hoag... ..	3 50	
			\$559 85
CONTRA.			
Jan. 12	Paid check to Mart Taylor	\$13 50	
Jan. 17	Paid check to Edwards & Co.....	9 25	
Jan. 22	Paid check to George Vose & Co	10 00	
			32 75
	Balance on hand this date, January 30, 1866..		\$527 10

R. T. BROWN, Treasurer.

SECRETARY'S SUPPLEMENTAL REPORT.

RECEIPTS.			
1866.			
Jan. 1	Cash balance from 1865, in Treasury.....	\$256 35	
Jan. 8	Cash of C. H. Shear, for rent of park for December, 1865, and January and Feb- uary, 1866	300 00	
	Cash W. H. Thomas, for diploma frame...	3 50	
			\$559 85
CONTRA.			
	Cash balance in Treasury from 1865	\$256 35	
Jan. 8	Cash paid Treasurer.....	300 00	
Jan. 29	Cash paid Treasurer.....	3 50	
			\$559 85
DISBURSEMENTS.			
	To Mart Taylor, for filling diplomas.....	\$13 50	
	To Edwards & Co., stationery	9 25	
	To George H. Vose & Co., wood.....	10 00	
Jan. 30	Cash on hand	527 10	
			\$559 85

In addition to the above financial statement, showing that the present indebtedness of the society is six thousand two hundred and four dollars and forty-four cents, we would state that in eighteen hundred and sixty-three, on the eleventh day of March, the demands against the society amounted to twenty-six thousand four hundred and seventy-three dollars and fifty-eight cents. That year they were reduced seven thousand one hundred and eighty-one dollars and two cents. In eighteen hundred and sixty-four the reduction was eight thousand four hundred and twelve dollars and seventy-two cents, and in eighteen hundred and sixty-five it is five thousand nine hundred and eighty-seven dollars and thirty-six cents; the whole amount of indebtedness cancelled in the three years, including interest, being twenty-one thousand five hundred and eighty-one dollars and ten cents. With a fair appropriation by the Legislature this year—say five thousand dollars—the Board believe the society will be able to pay the last dollar of its debts and to enter upon an unexampled career of usefulness, from which it has been prevented in a great measure in the past by the encumbrance that has hung over it.

We would also state that while the books of the Secretary for eighteen hundred and sixty-two showed an annual membership of about five hundred, we have now about one thousand one hundred members. The

Board have not encouraged the increase of life members, for the reason that by so doing they would decrease the annual dues or receipts.

The sum of seventy-eight dollars and fifty-four cents has been expended in building a case for the cabinet of minerals, which is increasing annually.

We have also been compelled to expend the sum of eight hundred and seventy-nine dollars and fifteen cents in placing a tin roof on the main building on the stock ground. The boiler which the society has been using for some years, and which belonged to Samuel Brannan, has been purchased this year, and the boiler and engine are now both the property of the society. Brannan let the Board have it for five hundred and fifty dollars, though it is believed to be worth much more than that sum. The society's transactions for eighteen hundred and sixty-three and the report of the Board for eighteen hundred and sixty-four have been called for and given out until there are but few copies left, showing an increased desire on the part of the agriculturists of the State for information in respect to their calling. The society has also received from our delegation in Congress and from the Commissioner of Agriculture at Washington a large number of the reports of that office for eighteen hundred and sixty-three, as also the monthly reports, and distributed the same throughout the State.

There has been added to the library, by exchange, the reports of the State Agricultural Societies of New York, Pennsylvania, Michigan, Iowa, Oregon, Connecticut, Massachusetts, and Rhode Island. Also, received from John Conness the *Congressional Globe* for eighteen hundred and sixty-three and eighteen hundred and sixty-four; from William Higby the first and second volumes of the eighth census and the reports of the several departments. Also, from Colonel Warren, of the *California Farmer*, Flint's "Milch Cows" and Harbison's "Bee Keeping." The society is indebted to Wells, Fargo & Co. for free transportation and delivery of many articles; to the Steam Navigation Company and the several railroad and stage companies for like favors. Also, the ocean steamship companies between New York and San Francisco, and to the Panama Railroad Company, for the free transportation of books; and to J. Q. A. Warren for a collection of seeds and other articles from the Sandwich Islands, where he is acting as a delegate for this society. Also to many daily and weekly newspapers for their papers free, and for the general interest they take in the prosperity of the society; to Dr. T. M. Logan for several specimens of ducks and geese, and other birds, stuffed and mounted, as a nucleus for a museum of natural history.

In closing these remarks, we would congratulate the farmers of the State upon the prospect of a foreign market for their surplus grain, and on the very flattering prospects of a season of plenty and prosperity ahead. We hope the bright anticipations may be more than realized.

A. C. Bidwell moved that the report be published in the *Sacramento Union*, but withdrew the motion on a statement by the Chair that it was customary to appoint a committee to examine the reports and accounts.

A motion was then made and carried that a committee of three be appointed to examine the accounts and reports, and that such committee be appointed by the Chair.

The President appointed as said committee: A. C. Bidwell, Cyrus Coffin, and D. W. Earl.

A member moved that the name of William H. Harron be added to the committee. Carried.

The President stated that Daniel Flint had furnished the necessary affidavits to the effect that he had raised in the specified time the quantity of hops for which a premium had been offered by the society.

H. M. Bernard moved that the matter be referred to the Board of Directors.

F. S. Malone moved, as an amendment, that the matter be referred to a committee of three, to be appointed by the Chair.

The amendment was adopted, the original motion, as amended, adopted, and the President appointed Thomas K. Stewart, A. P. Smith, and J. Gruhler, as such committee.

The President then made a statement that a circular had been sent, during the year, to the various Assessors throughout the State, soliciting reports containing information concerning the agricultural interest in their respective localities, and offering a premium of fifty dollars for the best and most complete report. It was now necessary that a committee should be appointed to examine and determine upon the merits of the reports obtained.

F. S. Malone moved that a committee of three be appointed by the President.

George C. Haswell moved, as an amendment, that the committee consist of five members, and the amendment was accepted by the mover of the original motion.

The motion as thus amended was then carried, and the President appointed as such committee, Dr. Montgomery, E. B. Ryan, W. F. Knox, J. A. Tutt, and Edward I. Robinson.

The President having stated that C. H. Chamberlain of the Assembly, had been appointed by the San Joaquin Valley Agricultural Society as a delegate to this society, a member moved that Mr. Chamberlain be invited to take a seat in this meeting during the transaction of its business.

The motion was carried.

F. S. Malone moved that the meeting proceed to elect a Board of Directors for the ensuing year.

A member moved that the meeting do now adjourn until one o'clock, to-morrow.

The motion for an adjournment prevailed, and the meeting accordingly adjourned at three P. M., to re-assemble at one P. M., to-morrow.

SECOND DAY.

WEDNESDAY, January 31, 1866.

President Reed called the meeting to order in the main hall of the Agricultural Pavilion, at a quarter before two o'clock, P. M., and said the first business in order would be the receiving of the reports of the committees.

REPORTS OF COMMITTEES.

The Secretary read the following report from the Committee on Finance:

SACRAMENTO, January 31, 1866.

To the Officers and Members of the State Agricultural Society:

GENTLEMEN:—Your committee, to whom was referred the accounts, books, and vouchers of the Treasurer and Secretary of the State Agricultural Society for the year eighteen hundred and sixty-five, most respectfully beg leave to report that, after a thorough investigation of the same, they find them correct.

A. C. BIDWELL,
CYRUS S. COFFIN,
D. W. EARL,
WM. M. WARREN,
Committee.

The report, as read, was adopted.

The committee appointed yesterday to examine the various reports received from Assessors in answer to a circular offering a premium for the best and most complete statement of facts connected with the agricultural interest in their especial localities, presented the following report:

MR. PRESIDENT:—Your committee, to whom were referred the various statistical and descriptive reports of the several District and County Assessors of the State, have had the same under consideration, and beg leave to make the following report:

They have made a careful and thorough examination of these numerous reports, and find many of them to be quite creditable to the industry, fidelity, and good sense, of those who prepared them. But they have arrived unanimously at the conclusion that W. V. McGarvey, the Assessor of Monterey County, is entitled to the first premium of fifty dollars for the very intelligent, comprehensive, and complete report, both statistical and descriptive, furnished by him, and which they conceive to be more strictly in accordance with the views and requirements of the Board, as set forth in the circular and blanks prepared and forwarded by their Secretary, than that offered by any other person.

Your committee had some difficulty in deciding upon whom they should recommend the bestowal of the second premium of twenty-five dollars, but they finally concluded to favor its award to Thomas C. Birney, Assessor of District Number Two, in Tuolumne County. They perceive that, according to the terms of the circular, a District Assessor, as well as a County Assessor, may compete for the premiums offered, and in view of the manifest care and labor bestowed upon his work by Mr. Birney, and his success in presenting a full and intelligible report of his comparatively small district, they regard him as clearly entitled to the second premium.

But your committee think it would be better to confer premiums upon those Assessors only who will furnish both statistical and descriptive reports of an entire county, whether such statistics be collected exclusively by himself and deputies, or be compiled from the returns of the several District Assessors in any particular county.

All of which is respectfully submitted.

JOS. F. MONTGOMERY,
E. I. ROBINSON,
W. F. KNOX.

The report was adopted.

The following report was received from the committee on the matter of awarding the proposed premium for hop raising:

SACRAMENTO, January 31, 1866.

To the Board of Managers of the California State Agricultural Society:

Your committee to examine the hops shown us by Daniel Flint, of Sacramento County, would respectfully report that on examining the hops shown by Daniel Flint, we find them to be of fine quality, and such as are used by Mr. Grubler in making the best quality of lager beer, and would recommend a first premium.

THOMAS. K. STEWART,
J. GRUHLER.

The report was adopted.

ELECTION OF OFFICERS.

H. M. Bernard moved that the society proceed to the election of officers, but withdrew the motion temporarily on the request of A. B. Nixon.

A. B. Nixon stated that he held in his hand a paper providing for the appointment by the State Agricultural Society of a committee to act in conjunction with a committee appointed by the late Miners' Convention, in the matter of the State Agricultural College.

H. S. Crocker hoped the motion to proceed to the election of officers would not be withdrawn. There were many present who would like to vote, but whose business would soon call them away.

The motion of H. M. Bernard, to proceed to the election of officers of the society, was renewed and carried.

H. M. Bernard placed in nomination Charles F. Reed, of Yolo, for President, the present incumbent.

The President (C. F. Reed) said it was a source of gratification to him that his actions during the past two years had met with the approval of the society, as he had taken considerable interest in all matters connected with it. Whilst he would much rather prefer to see some other gentleman elected to the position he now filled, yet if it was the pleasure of the society to re-elect him, he should endeavor to perform the duties devolving upon him with honor to the society, and credit to himself.

M. M. Estee said if there were no other candidates, he would move that the Secretary cast the vote of the society for Charles F. Reed for President.

John Bigler hoped that the strict letter of the law would be complied with, which, in his opinion, required the vote to be by individual ballot.

After a little discussion, the President declared the motion out of order.

A. B. Nixon moved that three tellers be appointed by the President to collect the ballots for that office.

The motion prevailed, and the President appointed A. B. Nixon, M. M. Estee, and D. W. Earle.

A ballot was had, and the tellers announced as the result, that sixty-three votes had been cast, all of them being for Charles F. Reed.

The Secretary—Charles F. Reed having received the unanimous vote of the society, I declare him President elect of this society for the ensuing term.

The President—Gentlemen, I thank you for this very flattering appreciation of my services. I will endeavor to fill the position to the best of my ability.

A. B. Nixon placed in nomination for Directors, the names of Edgar Mills, J. H. Carroll, and C. T. Wheeler.

The President—In answer to inquiries on the subject, I will state that the Constitution prohibits voting by proxy.

H. M. Bernard nominated Chris. Green as one of the Board of Directors, and another member placed in nomination the name of M. Biggs.

Marion Biggs said that if elected he would enforce the Constitution and rules of the society to the letter, as far as one vote in the Board would accomplish that object.

William R. Cantwell moved that the nominations be closed, and the ballot be proceeded with. Carried.

The ballot for Board of Directors was then taken, with the following result:

Edgar Mills.....	99
J. H. Carroll.....	66
C. T. Wheeler.....	69
M. Biggs.....	34
Chris. Green.....	36
W. P. Coleman	1

Edgar Mills, J. H. Carroll, and C. T. Wheeler, were thereupon declared by the President elected members of the Board of Directors for the ensuing term.

THE AGRICULTURAL COLLEGE.

A. B. Nixon renewed his motion to take up the matter of the appointment of an Agricultural College Committee.

The motion prevailed, whereupon the following preamble and resolutions were read:

WHEREAS, the Miners' Convention, held in this city on the seventeenth and eighteenth of this month, appointed a committee of its members to consult with a similar committee which had already been appointed by the Assembly, to consider the propriety of establishing a college for the benefit of agriculture and the mechanic arts, and in connection with said college establishing a mining and metallurgical department, especially devoted to the mining interests of the State; and whereas, said committee, after such consultation, unanimously reported, and the Convention adopted, the following resolutions, viz:

"Resolved, That this Convention recommend the immediate establishment of a college for the benefit of agriculture and the mechanic arts—the first great leading object of which shall be the development of the mining and agricultural resources of the State by the practical and experimental teaching and illustration of such arts and sciences as will best contribute to these objects.

"Resolved, That we recommend that the necessary steps be taken by the Legislature for the location and entry, in the name of the State, of the one hundred and fifty thousand acres of land donated by the General

Government for the endowment of such college; and that when a title in the State shall have been secured, that the same be sold and the proceeds invested as such endowment.

Resolved, That we approve of the use of all the proceeds and interest thereon of the seventy-two sections of land donated to the State for a seminary of learning as a part endowment of a college for the above named purposes.

Resolved, That to secure a fair organization, location, and management of said college, as between the mining and agricultural interests of the State, the Board of Regents or Directors in whose hands these duties shall be intrusted shall be composed of persons one half of whom shall be well acquainted with the practical and theoretical operations of mining, and the other half of whom shall be agriculturists; and this relation shall never be changed.

Resolved, That a committee of five be appointed by the Chairman of this Convention, he being one, to act with a similar committee to be appointed by the next annual meeting of the State Agricultural Society, to form a plan for the organization of said college, and propose the same to the Legislature and solicit its enactment into a law.

And WHEREAS, The committee indicated by the last resolution above was appointed and is now waiting the action of this Convention in the premises; now, therefore, be it

Resolved, That we heartily indorse the above resolutions and the action of the Miners' Convention in this behalf, and that we believe it to be the duty and the interest of the agriculturists of the State to unite with the miners in the establishment of a college upon the principles set forth in the above resolutions.

Resolved, That this Convention do appoint a committee of five to act with the committee of the Miners' Convention for the purpose specified.

After the reading of the report, the President stated the question as being on the adoption of the resolution providing for the appointment of a committee of five to act in conjunction with the committee appointed by the Miners' Convention.

John Bigler hoped that no action would be taken by the society in the matter, at least until the patent for the site of the college had been issued.

The Secretary explained that it was necessary that the college should be organized by the present Legislature in order to obtain the land donated by the Government for the purpose. The best legal talent bore him out in the opinion that the passage of an Act incorporating the college would give it a legal existence and secure the land.

H. M. Bernard said he was present at the Miners' Convention when the college matter was introduced. There were no mechanics mentioned in connection with the resolutions there adopted. He would like to see the society take some action on this fact. The mechanical arts should be represented. It was best both for the agricultural and mining interests.

A. B. Nixon could not see that the question was at issue at all. Unless something was done by the Legislature, the State would forfeit her right to the appropriation of lands. It was a conditional grant. The society should take some action in the matter. That institution should be located in this county. Here was the proper site in order that it might be under the guardianship of the State.

Some further discussion followed, in which Messrs. Bernard, Luce,

and McClatchy took part, the latter stating that the action of the late Miners' Convention could not be changed, and the simple question was, should this society associate itself with them. He added that for his part he did not care if the whole committee was composed of mechanics.

Jerome C. Davis moved that the resolutions be adopted. Carried.

Jerome C. Davis moved that the President appoint the committee authorized by the resolutions just adopted. Carried.

The President subsequently appointed the following named gentlemen as the committee: A. B. Nixon of Sacramento, Professor Wm. P. Blake of San Francisco, J. C. Davis, of Yolo, O. Harvey of El Dorado, and L. Goss of Sacramento.

VOTE OF THANKS.

W. P. Coleman offered the following resolution, which was adopted:

Resolved, That the thanks of the members of the California State Agricultural Society be and are hereby tendered to the California Steam Navigation Company, the Pacific Mail Steamship Company, and to the Central Pacific, Sacramento Valley, and Panama Railroad Companies, and to Wells, Fargo & Co.'s Express, for their great liberality in transporting all articles for the society free of charge. Also to our Senators and members of Congress for many valuable donations of books and public documents, and to Samuel Brannan for the free use of the steam boiler so long used by the society.

PICTURE OF HENRY CLAY.

The following correspondence, which explains itself, was read by the Secretary:

SAN FRANCISCO, September 22, 1865.

C. F. REED—*Dear Sir*:—In the hall of your society is a painting of Henry Clay belonging to me. I let your late President (Jerome Davis) have it with the understanding that the society were to purchase it for the sum of one thousand eight hundred dollars. It cost me two thousand one hundred dollars. Since that time, as I understand, your society has not been in a very flourishing condition, which may account for the non-purchase of the painting. On account of the flood and other circumstances, I was prompted to defer speaking of the matter. My object in writing this is to know what action your society intend to take in the matter. If they wish to purchase the painting, I will sell it for the sum of five hundred dollars in gold coin. If they decline to purchase at this price, I will then remove the same, as I can obtain that price for it in San Francisco.

An early answer to this is respectfully requested. Direct to care of Flag office.

Yours, etc.,

CHARLES P. DUANE.

P. S.—The painting sold for five thousand dollars in eighteen hundred and fifty one. I bought it in eighteen hundred and fifty-two.

C. P. D.

ROOMS STATE BOARD OF AGRICULTURE, }
Sacramento, October 17, 1865. }

C. P. DUANE, San Francisco:

Dear Sir:—Your letter of the twenty-second ultimo was duly received, and at the meeting of our Board held last evening was laid before them for action. The Board decided that they did not wish to purchase the picture of Mr. Clay you refer to—the funds of the society not being in a condition to warrant such an outlay. I believe no member of the Board was apprised of the history of the ownership of the picture until the receipt of your letter. It has been slightly injured since it has occupied a place in the hall. I presume the damage can be easily repaired by an artist. Will deliver it to your order at any time you may send for it.

Very respectfully, your obedient servant,

I. N. HOAG, Secretary.

A member moved that the whole matter be referred to the Board of Directors, with power to act.

John Bigler moved that the whole matter be referred to a special committee, prefacing his motion by saying that Henry Clay was a man whose reputation was broad and national, whose patriotism was beyond suspicion, and who loved the Constitution under which we lived. Although belonging to a different party, Bigler said he had always admired the character of Clay.

Bigler afterwards withdrew his motion, saying his only wish was to see justice done.

The motion to refer to the Board of Directors was carried.

CONCLUSION.

The Secretary said that the resolution of thanks just passed should have included the names of Dr. T. M. Logan, Professor Borlander, Dr. Kellogg, Dr. Behr, Dr. Cooper, and Dr. Oxland, to whom the society was indebted for reports on scientific matters coming within their peculiar province.

On motion, the thanks of the society were tendered to these gentlemen.

At a few minutes past three the meeting adjourned *sine die*.

ORGANIZATION OF A CORPS OF OFFICERS

By the Board for the Examination and Report on Scientific Subjects connected with the Interests of Agriculture and Mining in California.

At a meeting of the State Board of Agriculture, held at the Secretary's office on the twenty-second day of February, eighteen hundred and sixty-five, it was determined to fill by appointment the offices named in Article four, section one, of the Constitution; and the Secretary was authorized and empowered to select proper persons and make such

appointments, and also to appoint committeemen in the several departments named.

The following rules were adopted, declaring the objects of such offices, and defining the duties of the appointees:

RULE I.—OF CHEMIST.

The objects of the office of Chemist to the Board shall be the advancement of agricultural knowledge by the application of chemical science to the qualitative and quantitative analysis of agricultural materials, such as soils, grains, fruits, manures, etc.; all chemical investigations of such officer for the society shall be to this end, and shall be the property of the society.

It shall be the duty of the Chemist to give, upon application, his written opinion to the Board, upon the adaptation of any soil to any particular kind of production, and *vice versa*, or upon any subject pertaining to agricultural chemistry, as embraced in the duties of his office. He shall keep a complete record of all his official transactions and opinions, and shall each year report the same to the Board, together with such suggestions and observations as his experience may dictate for the advancement of the agriculture of California.

RULE II.—OF BOTANIST.

To obtain for record in the transactions of the society, a full and popular description of the botanical productions of the State, both native and imported. To investigate and illustrate the physiology of plants and trees, and the adaptation of the most useful—particularly the varieties of forage plants—to our different localities and soils. To discuss and teach the importance and means of preserving the forests of our mountain districts, and to induce the cultivation of woodlands by the agriculturists about their homes on our rich plains and prairies.

It shall be the duty of the Botanist to labor for the accomplishment of these objects, to assist in the collection of an herbarium at the society's rooms, and to report annually a full account of his official transactions, including such suggestions as he may deem proper to make upon this branch of the State's natural history.

RULE III.—OF GEOLOGIST.

To obtain for publication a description of the general and agricultural geology of the State, with particular reference to the mineral and agricultural advantages, in language and style adapted to the general reader. The collection, classification, and preservation at the rooms of the society of specimens of the different kinds of rocks, minerals, fossils, and soils.

The Geologist shall report annually to the Board the progress of his work, and make such recommendations as the interests of this department may require.

RULE IV.—OF METALLURGIST.

To keep for annual publication a correct and official record of the various modes of mining in this State, and of reducing and separating the different kinds of metals from their ores and other matters. To note

the improvements made in the processes of such reduction and separation, and also the improvements in the machinery used for mining purposes. To collect and place in the society's cabinet specimens of all kinds of ores, and of the metals in the different stages of reduction.

The Metallurgist shall keep the record and perform the duties above indicated, and report annually to the Board the work performed, and give a general review of the progress of mining in this State, and such statistics as he may be able to collect pertaining to the same, with such observations for the general advancement of this branch of industry as he may deem important.

RULE V.—OF METEOROLOGIST.

To keep a record of the various meteorological phenomena, such as the pressure, the temperature, and moisture of the atmosphere; also, the quantity of the rain at as many localities in the State as practicable.

The Meteorologist shall keep or superintend these records and report them to the Board annually, accompanied by such practical observation of their application to agricultural operations as may be suggested by his experience.

RULE VI.—OF ZOOLOGIST.

To obtain a description of the animals and birds of the State, and their habits, particularly those that are detrimental or beneficial to agriculture and horticulture. The collection, classification, and preservation, in the society's museum, of stuffed specimens of all the native varieties of birds, and of such animals as may be deemed important.

The Zoologist shall prosecute the above objects, and make to the Board an annual report of the progress of the work, including any recommendations for the preservation of the useful, or destruction to the injurious, as may be called for.

RULE VII.—OF ENTOMOLOGIST.

To describe the insects of the State, their habits and peculiarities, particularly those varieties destructive to vegetation; to collect, classify, and preserve, at the society's rooms, specimens of the different varieties, and report annually to the Board any observations or suggestions upon their relations to agricultural economy, and the means of preventing their ravages by their destruction or otherwise.

All reports indicated above, and also all reports from the committees that may be appointed to report upon the several branches of industry indicated in the section of the Constitution above quoted, to be made in writing to the Secretary of the Board, on or before the first day of December of each year, so that they may be properly arranged in the transactions of the society, to be reported to the Governor by the first of January.

In pursuance of the above action of the Board, the following gentlemen were appointed to the offices named, and their first reports have been received and will be found in the following pages:

Chemist and Metallurgist,

DR. R. OXLAND, F. C. S.....San Francisco.

Geologist,

Professor J. D. WHITNEY.....San Francisco.

Meteorologist,

T. M. LOGAN, M. D.....Sacramento.

Zoologist,

J. G. COOPER, M. D.....San Francisco.

Entomologist,

H. BEHR, M. D.....San Francisco.

Botanists,

A. KELLOGG, M. D.....San Francisco.

Professor H. N. BORLANDER.....San Francisco.

ANIMALS, BIRDS, AND REPTILES OF THE STATE.

BY J. G. COOPER, M. D.,

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METHODS OF COLLECTING AND PRESERVING SPECIMENS OF VERTEBRATED ANIMALS.

It is proposed to give here some brief instructions on this subject, and then to mention those animals most interesting either to naturalists or to farmers. Settlers on this coast are too apt to overlook the distinctions between our animals and those of the Atlantic States, or to attribute the differences to the climate and other circumstances, thinking like the early European emigrants, that the new species are degenerate forms of the species they left behind them. On the contrary, if there is any degeneracy it is in the eastern animals, for those nearest allied on this coast are usually of higher development.

On this account none should be overlooked; and it is impossible to determine beforehand how important some obscure and despised animal may prove to be to the interests of agriculture when its habits are closely investigated. All should be collected, classified, preserved in museums, and their history fully recorded, so that our growing agricultural population may learn that nothing was created in vain, and that the laws of nature, properly understood, may be made to contribute much more to man's comfort and interest, than if he blindly opposes them and tries to regulate things by his own fancies.

All specimens should be measured before skinning, and the length of body, head, tail, ears, fore foot, hind foot, height at shoulder, color of eye, and any other notes desired, together with the locality, name, date, collector's name, and number corresponding to his notes on its habits, etc., written on card or strong paper and tied to the specimen. Skulls must be numbered to correspond with their skins. Specimens in alcohol should be labelled with a piece of parchment, cloth, leather, etc., and the ink dried well before putting them in, or a piece of wood or lead with a number attached corresponding to one in the collector's notebook.

A great assistance in skinning animals is to suspend the body by a hook, so that both hands are at liberty. For small kinds a common fish-

hook will answer, with the barb broken off and a cord attached a foot or two in length. This may be inserted among the bones near the tail after the skin has been partly detached.

Other implements required are the following:

First—A sharp knife, of almost any shape, but the surgeon's scalpel without a jointed handle is the best for small kinds, and the common butcher knife, which is of similar shape, for large ones.

Second—A strong sharp pointed scissors, and for large skins a shears is often useful.

Third—Triangular Glover's needles for sewing up skins; two or three sizes.

Fourth—A pair of spring forceps, such as are used by surgeons, though not essential, are very useful.

Fifth—A tape measure, three to six feet long.

Sixth—A fine saw, or coarse, flat file, to notch small bones before breaking them, so as to make them break evenly. Some use sharp edged nippers for this purpose. Large bones may be broken roughly and the ends smoothed off.

QUADRUPEDS.

Nearly every one knows the common mode of skinning a rabbit. To preserve specimens nearly the same plan is used, except that great care should be taken to peel off the skin without stretching or tearing it, and not to make such a long incision below, unless the animal is larger than a fox, in which case it is best to cut from the chin to the tail, and down the inside of each limb, so that the skin may be spread out and dry thoroughly. All fat should be carefully scraped off, or removed by rubbing with ashes, sand, plaster, or absorbent paper, which will extract all the oil, with the assistance of the sun's heat. When the skin is peeled down to the feet, these must be cut off from the body, leaving more or less of the bones with the skin, according to size. Those above a cat in size will require the soles of the feet to be cut open, and all soft parts removed from between the bones. The smaller kinds can be preserved by drying, after removing the leg muscles and cutting off the leg bones about the middle. On reaching the head, the skin may be completely removed with the lips, or the skull, if small, kept in it. In this case it is usual to cut off the back part of the skull, and remove the brains, eyes, and all other soft parts, leaving the skin attached near the nose and end of lower jaw.

The best, cheapest, and most convenient preservative of skins for museums is the common arsenic of druggists, which may be moistened with a little alcohol or water, to prevent its dust from being inhaled, and then applied like paste, with a rough brush, or piece of cotton tied to a stick. Many use it dry, sprinkling it with a common dredging or pepper box. No more need be used than sticks readily to the skin when moist, and it must reach every part of the inner surface, bones included.

Though arsenic preserves the *skin*, yet if any fleshy parts are left about it they may be attacked by insects, and the fur also is liable to the attacks of moths. To keep out these, after thorough drying, the skins should be packed in tight boxes, with a piece of camphor tied in a rag or paper with them, or dry tobacco freely sprinkled among them. For museums a solution of corrosive sublimate or other poison is used, sprinkled on the fur, and the thick parts about the head and feet moist-

ened with it. Camphor or flea powder are, however, the best for specimens in tight boxes.

The tails of animals may be skinned by drawing the vertebræ out slowly, or, fastening the stump of the vertebræ firmly, slip a noose over it, and gradually pull it toward the end of the tail, drawing the skin with it. After powdering with arsenic, the bones may be returned in the skins of small species. In larger kinds it is sometimes necessary to split down the skin of the tail part of its length.

Small skins which are inverted like a glove in skinning may now be loosely filled with cotton, dry hay, tow, or other *vegetable* matter, so as to restore somewhat their natural shape, filling the cavities of the skull before turning the right side out, wrapping a little around each leg bone, and then the cut may be sewed up by a few coarse stitches. The thread may also be passed through the skin of each foot so as to keep them in a neat position, and the fur being smoothed over, the specimen may be laid on a shelf to dry, or, when travelling, enveloped in a roll of stiff paper until dry. It retains the shape given to it until wanted for mounting, when it is steamed to make it pliable.

Large skins may be spread out flat, and when dry rolled into a bale. The skull should be preserved whole for these, being boiled until the flesh is easily separated, then cleaned, and the brains removed through the opening at the base.

All animals not too large, may be preserved in alcohol entire, and this is the best mode for new and rare species that require dissection and study, though not suitable for such as are to be mounted afterwards in museums. The present high price of alcohol in all forms, will prevent the general use of this mode except for rarities. Reptiles and fishes, however, are generally very difficult to preserve in any other manner. All specimens put into alcohol should have a hole cut in the belly to allow it to soak through them, and if large, the intestines may be removed, or the skin may be taken off, with the head and feet attached, and put in alcohol, where it will keep some weeks without injury, and may be mounted afterwards. Quadrupeds, smaller than a squirrel, are best for examination entire, taking the precaution to cut a hole or two in them. For vertebrated animals the alcohol should be diluted with one third water, and full a third of the capacity of the vessel containing it be left above that occupied by the specimens. If kept in it more than a month, the alcohol should be changed once. Insects require the *strongest* alcohol.

A little alum and tartar emetic added to alcoholic specimens increases their chance of preservation, and prevents its being drunk by those whose love of liquor overcomes all scruples, such persons being not very uncommon in districts where liquor is scarce and specimens particularly valuable.

BIRDS.

The general principles for skinning birds are the same as for quadrupeds. The measurements to be made are: The length from tip of bill to end of tail, the length of the last joint of the wings, and the distance from tip to tip of wings. These may be indicated on the label by figures only, as it is always understood that the spread of wings is the greatest, and the length of wing the smallest measurement. Note the color of the eyes, feet, bill, cere or membrane at its base, bare skin on head, etc., and the sex, which may be ascertained after skinning by examining the body, when the ovaries of the female containing minute eggs, or the

testicles of the male, will be found near the kidneys. Also date, locality, name, collector, etc.

When a bird is shot, all large holes must be plugged with cotton or paper, and this also inserted in the mouth and throat, so as to prevent the flow of blood or other fluids. Blood on the feathers may be absorbed by sprinkling with plaster of Paris, ashes, dust, or sand, shaking off all that does not stick; then make a cone of paper large enough to put the bird in, head down, and to twist up the other end over it, taking care not to injure the tail feathers. This will secure the smoothness of the feathers when the body stiffens.

In cool weather it is best to postpone skinning for twelve to twenty-four hours, in order to allow the blood to coagulate, so that it will not flow so freely, and the fat hardening also gives less trouble. Some use a ring of paper pinned around the body to obtain its exact girth, so that it can be stuffed out to the same dimensions afterwards.

Before skinning, put fresh plugs in the mouth, nostrils, and large shot holes; take the measurements and notes required; then make an incision from the breastbone down to the tail, not so deep as to open the intestinal cavity, and carefully separate the skin on each side, plugging or sewing up any holes accidentally cut too deep. If blood or fluids run freely, absorb them by some dry ashes, plaster, or paper, and use these so as to protect the feathers, if necessary, keeping the fingers well powdered. Separating the skin from one side, the leg is soon reached; this must be drawn out by the knee joint as far as it can, and the tendons cut where they go towards the foot. Break off the bone within the skin, and having freed that leg, treat the other in the same way. It is most convenient in small birds to break these bones, and also those of the upper wing joint, before beginning to skin, thus having the limbs less in the way.

After the legs are freed, cut down to the tail, and separate from the body, leaving some of the vertebræ attached to support the feathers. Remove the oil-glands above the tail carefully from the skin, then insert the hook in the body and hang it up, head downwards. The skin is then easily peeled off until the wings are reached, when it must be drawn to one side until the broken end of the shoulder bones are reached, which may be slipped through the muscles, and pulled out as far as possible. The muscles must then be cut off, and this wing being freed, the same process is used for the other.

The skin then slips off easily as far as the head, and if large must be supported, so that its weight may not stretch the neck. In drawing it over the head be careful not to tear it, and use the finger nails more than the knife. The ear membranes are easily drawn out with it, and on reaching the eyes the attachment of the lids must be carefully separated from the eyeball, cutting so as to injure neither the lids nor the eyeball, as the fluids escaping give trouble. Then cut off the back part of the skull, remove the brains and the eyes, clean away all remains of muscle, etc., from the skull, and sprinkle or smear the skin with arsenic. Fill the eye sockets, and other cavities about the head with cotton or other stuffing, and draw the skin back to its original shape. If the neck has dried during the operation, it will need moistening before retraction.

The second joints of the wings now require cleaning from the muscles, etc. This may be done in small birds by carefully drawing the skin down over the bones, loosening it with the finger nails. Large birds, however, need an incision under the wing, reaching the whole length of the joint, which may be sewed up afterwards by a few stitches. Arsenic

must be applied freely to all these parts. The wing bones must now be connected by a string passed through the space between the bones, or a thread sewed through the ligaments so that it cannot slip. Do not draw the wings too close together, but leave as nearly the natural distance between them as is practicable. If hurried, the small bone of the joint may be removed, and tying the wing bone omitted. Cotton or tow may be now wound round the broken ends of the wing and leg bones, a roll of it inserted in the neck, and enough put in the body to fill it out to its natural shape.

When the legs are tied together no stitches are generally necessary to sew up the cut. If there are large holes in the skin, they should be sewed up from the inside before putting in the stuffing. In large birds it is well to sew on wide strips of rag along the inner edges of the cut made in the skin to protect the feathers during the operation of skinning, removing the rags afterwards. Very badly soiled skins can, however, be cleaned by the taxidermist, and, provided they have not lost many feathers, are still useful. The bill should generally be tied shut by a string passed through the nostrils, and the labels may be put there or on the legs. Very long necks are best stuffed by rolling up a long cylinder of paper, and passing it down the throat or from the inside. The neck may then be bent down along the side of the body, and the legs bent up so as to make as compact a specimen as possible. Having smoothed down the feathers, the bird must now be pushed carefully inside a cylinder of stiff paper of the proper size and laid *on its back* to dry. A still better mode is to roll it up in a sheet of cotton wool until dry, thus preserving the form more truly. Hanging it up by the bill or feet stretches it too much. If carefully dried, it retains a good shape, and may be freely handled afterwards.

Some birds, especially ducks and woodpeckers, have the neck so slender that the head cannot be drawn through it by skinning in the usual manner. In these an incision must be made on the most injured side, from the ear down far enough to allow the head to be cleaned through it. The body may then be skinned as usual, or the incision may be continued down the neck to the bare space under the wing, and the skin taken off without cutting it elsewhere. To sew this up requires care in order to adjust the feathers nicely, and the stitches must be taken from within outwards. Some persons skin all birds in this manner, but the feathers are more apt to fall out of those birds that have them loosely attached.

There is much difference in the ease with which a bird may be skinned, according to the relative toughness of skin and adhesion of feathers. A humming bird is more easily skinned than a pigeon, and those of the size of a robin take much less time than an eagle. To practice on, the best are blackbirds and jays, those not too fat being preferable.

NESTS AND EGGS.

A very beautiful and interesting collection of the nests and eggs of birds may be made, and is important to illustrate their habits and history. As many persons are engaged in this study, too many can hardly be obtained, except of the commonest kinds which build around houses. Those of hawks, owls, small waders, ducks, woodpeckers, pigeons, magpies, and California vulture, are the most desirable. Nests, when very large and roughly built, are not needed, but a note may be attached to the eggs, describing the nest.

To empty eggs, if fresh, is easily done by making a hole in one *side* and blowing out the contents with a small tube, bent at the end, the egg being held over a vessel of water with the opening downwards, and the tube inserted with the bent end pointing upwards, the hole being large enough to allow the contents to escape around it. The puncture is best made with a small-pointed steel drill, but a needle will do if a circle of small holes is made with it and a round piece extracted. For large eggs, a fine rat-tail file may be used to smooth the edges of the opening. If an embryo is in the egg, the opening must be made larger to extract it.

REPTILES, FISHES, ETC.

Lizards, if very large, may be skinned like other quadrupeds, and stuffed, covering the skin with varnish to keep its color, or putting it in alcohol. Snakes may also be skinned, if large, by making an incision along one side of the body at its thickest part, separating it for a few inches, and then pulling it off like a glove over both ends at once. The tail, however, must be skinned separately, as it is more firmly adherent. The head must be cleaned like that of a bird, the arsenic applied, and the skin again turned right side out. To assist in this, it is best to tie a long cord at the neck and beginning of tail before skinning, which prevents tearing it at those points, and makes it easy to turn the skin back again.

Turtles usually require to have the breastplate sawed across on each side; though our single California species may be cleaned out through an incision near the fore and hind leg on one side.

Large frogs may be made to look much more natural by stuffing and varnishing than in alcohol.

Fishes may be stuffed also, or one half the skin only preserved, being cut around so as to retain all the single fins, tail, etc., attached.

Dry skins and skulls of our fishes are very desirable, as well as those preserved in alcohol, and the bones of the throat, which generally have teeth on them, should be left attached to the skulls. A series of the fish of any locality may be preserved by salting down halves, prepared as above, and packed in a keg, with rock salt in layers. There are many kinds of salmon, trout, sturgeon, and others, in fresh water, too large usually for alcohol specimens, which may be thus packed until ready to be prepared for the museum.

SKELETONS AND FOSSILS.

Skulls and skeletons of all animals are important, much of their classification and other interesting facts being learned by the study of the bones, which are also valuable for comparison with fossil remains. Bones found in the earth at great depths, in the floors of caverns, gravel banks, along rivers, etc., should be carefully preserved and labelled, as they often prove on comparison to be those of animals no longer living here—such as the elephant, rhinoceros, tiger, etc. All human remains from such locations are especially interesting, and if found with those of large animals, the mode of their occurrence should be most carefully noted. Skeletons should not be divided, as is often done, but all the bones kept together and sent to the society's museum.

If crumbling, bones may be hardened by boiling in strong glue.

Skulls of all the living tribes of Indians, carefully selected, should always be preserved, as much of the natural history of the human race is founded on this study, especially when they can be compared with those of other nations in large museums.

TRANSPORTATION.

Specimens of animals may be prepared for sending to the society by making an incision large enough to extract all the entrails, and filling the cavity with salt, or even charcoal coarsely powdered, which in the dry season preserves them for several days. They may be boxed up, and sent through Wells, Fargo & Company, free of charge, directed to I. N. Hoag, Secretary of State Agricultural Society.

In packing specimens for transportation, too much care cannot be used to avoid injury by dampness, breakage, etc. Those in alcohol, if in large vessels, should be rolled or sewed up in cloths, especially the fishes, and empty space filled with branches, etc., to prevent them from shaking about too much. Bottles should not have the mouths wider than necessary to get the specimen in, so that they may not leak around the cork.

The various modes of trapping, poisoning, and shooting, are so well known that they need not be here described. For birds smaller than a crow, number ten shot is the best, as it does not damage the skin much, and if near by, any kind of bird may be killed with it. Number five is, however, useful for large birds or long shots, and sometimes wire cartridges are required.

The society has offered prizes this year, amounting in all to thirty dollars, for the best collections of mammals, birds, and reptiles of this State, and fifteen dollars for the second best, or one third the amounts stated for the best of each class, with the privilege of buying the collections, after their exhibition, for its museum.

QUADRUPEDS OR MAMMALS.

Of this class one hundred and ten species are believed to inhabit this State and the adjoining ocean, including some which have no proper feet, such as whales, porpoises, etc., but which zoologically belong to the same class, as they suckle their young, unlike the fishes, which they externally resemble.

Some species are still very little known to naturalists, or are so rare and doubtful as inhabitants of California that particular attention is called to them. Of the carnivorous order, the sea otter is unknown in any American collection, and little is known of its habits. Good skins, fit for stuffing, skulls, and skeletons, are much wanted. The different kinds of seals are even less known to naturalists, and some of our farmers residing along the coast have frequent opportunities of obtaining them. The existence of a large species of lynx in the northern part of this State is undetermined, one or two, much larger and darker than the common wild cat, being found north of the Columbia.

The jaguar, larger than the common panther, here called California lion, has been often reported to exist in this State as far north as latitude forty degrees, but no skins or skulls have been seen by naturalists. It is pale yellowish, beautifully spotted with black spots in rings, tail long.

The various kinds of dark weasels and ermines inhabiting the high mountains are still to be determined.

The "raccoon fox," or "civet cat," of the miners, though said to be

common in the mountains, is very rare in museums, and no California specimen has yet been compared by naturalists with those of Texas or Mexico. An interesting account of its habits might also be written by some of those who have kept them tame in the place of cats.

The opossum is often mentioned as a California animal, yet no naturalist has ever recorded having seen one, or preserved a specimen in this State. Even a skull would be highly interesting for comparison with the species of the Eastern States and of Mexico.

Of the fish-eating cetaceans, (whales, porpoises, etc.,) opportunities often occur along the coast of obtaining very young specimens, which may be preserved in alcohol. Drawings of old ones, made on a scale from measurements, will aid much in determining how many species inhabit our shores, this order having yet been scarcely at all studied, and our species being generally believed to differ essentially from those of other seas. Farmers along the coast often cut up specimens that come ashore, and might frequently obtain valuable information regarding them. There are believed to be eight or ten species of this order along our coast.

Of insectivorous mammals, which are very beneficial to agriculture, little is known, and some of them are destroyed by farmers under the impression that they are injurious. The moles, which live entirely on insects under ground, are often confounded with the gophers, which destroy vegetation. A little attention to their habits of burrowing, and examination of their teeth, will show the difference of food, and why they should not be destroyed. A species with a star-like excrescence on the end of the snout is believed to inhabit this State, but has not been obtained by naturalists, and specimens in alcohol or skinned are much wanted.

The shrews resemble moles in form, but have small fore feet, larger eyes, and a shorter but pointed nose. They are often confounded with mice, but differ entirely in habits, and are usually smaller than the common house mouse. Two or more species have been found, and all specimens from California are desirable.

Bats, of which about fifteen species have been found, are the insect eaters of the air. All specimens and observations on them will be useful.

Of the rodents, or gnawers, which are the most destructive of any on the farm, we have numerous species, ranging in size from the beaver to the mouse.

The Sewellel or "mammoth mole" of miners is allied to the beaver, and inhabits meadows or river banks in the Sierra Nevada. Specimens and notes on their habits will all be useful, as very little is known about them.

The groundhogs or woodchucks of the mountains are almost as little known, but differ considerably from the species of the Atlantic States.

The species of ground squirrels inhabiting the plains of remote districts, are also rare in collections, and little known. Three small species are known to inhabit east of the Sierra Nevada.

The flying squirrel, though said to be numerous in parts of the Sierra, is scarcely known in collections. It is much larger than the Eastern species, and this or another kind is also said to be found in the coast ranges.

The gophers of different districts and elevations are found to differ considerably, but too little is known of them yet to determine how far this is to be relied on to distinguish them as species. Five have been described from this State, but specimens of all, especially from the bor-

ders of the State and high elevations, are very desirable. The same may be said of the pouched or kangaroo rats.

Of the native or wood mice, there are six species or more, which require more comparison and study to determine.

A wood rat, with a bushy tail like a squirrel, is said to be found in the northern and eastern mountains. Skins or skulls are wanted to determine its species.

The field mice, living in grassy places, with short legs and tails, large heads, and coarse fur, are little known, and all specimens will be useful.

The rabbit mouse, without a tail, with large round ears and rather small eyes, lives among the granite boulders near the summit of the Sierra Nevada. Very little is known of its habits, and only three specimens are known to have been yet preserved.

Of the hare and rabbit kind, seven species are pretty well known to occur in various parts of this State, and another has been seen in the snowy regions of the southern Sierra, in summer. This is said to be very large, white, with very large feet, and otherwise like the hare of Arctic America. To determine the species by skins and by skulls, no matter how imperfect, will be one of the most interesting contributions to science that can be made by travellers in those lofty regions. It is probable that these hares will be found also on the mountains northward, or they will otherwise be likely to differ entirely from the Arctic hare.

Of ruminating animals, it is not yet known exactly how many species of deer inhabit California. Comparisons of good skins and skulls of the white tailed deer with the Virginia deer are required to prove their distinctness. The Mexican deer, very small, but otherwise like the white tailed, may be found in the southern part of the State. The kinds found in the various districts should be observed carefully, to determine how many there are and how they differ.

The antelope and mountain sheep, or big horn, are fast becoming extinct in California. Experiments in taming these animals should be encouraged, both on account of their beauty and usefulness. The mountain sheep, if capable of domestication, would be superior to any of the tame breeds for mutton, and grows as large as three of them. Its skin is also useful, though it bears no wool.

BIRDS.

Like mammals, birds may be conveniently divided into the carnivorous, (and fish-eating,) insectivorous, granivorous, and omnivorous, though this does not exactly give their relations in a natural classification. Three hundred and fifty species inhabit California.

Of the carnivorous species, such as the hawks, owls, and vultures, all are killed without discrimination by the farmer, who does not study their habits sufficiently to see that many of them are not only harmless to his poultry but are among his best friends, by their destruction of squirrels, gophers, and mice. It would be better when they come around the farmyard to frighten them away by a peppering with fine shot than to kill them; and it is a mistake to suppose that the small kinds, which live wholly on mice, etc., ever grow to be large, no bird of any kind growing materially after it is able to fly.

Eleven species of owls are known to inhabit this State, and of those only the great horned owl is believed ever to molest poultry. The rest are even better destroyers of rats and mice than the hawks, on account

of their nocturnal habits. A pair of the common barn owls, known by their yellowish color, white beneath, have been watched and seen to bring an incredible number of mice and rats to the nest in one night, while they did not trouble themselves about the fowls. Smaller kinds, like the burrowing owls, as well as small hawks, feed much on grasshoppers and other insects. The great California vulture is said sometimes to attack sickly lambs, etc. It is not, however, numerous enough to do much harm; and the common kind, or turkey buzzard, is usually protected on account of its usefulness in eating dead animals.

Of our twenty-six hawks and eagles, those kinds that are nearly or quite black are of special interest to naturalists, and all such specimens are valuable.

Of the owls, a large species without ear tufts, banded above and below with broad transverse stripes, is desirable, as but one species is yet known in collections. Another still larger, and uniform gray, is to be looked for in the high mountains; and at the other extreme in size is a new species found in Colorado Valley, less than six inches long, with bare legs.

Of the insectivorous birds, the curious and beautiful "road-runner," also called "chapparel cock," "paisano," etc., is one of the most interesting. It not only eats great numbers of insects but is said to destroy rattlesnakes and other kinds, being probably somewhat omnivorous. Little is yet known of its habits or history.

The American cuckoo, or "raincrow," is one of the few birds that eat the hairy caterpillar, on apple and other trees. Few of these birds have been observed in this State, and specimens are wanted.

The woodpeckers, of which we have sixteen species, nearly all beautiful, are almost entirely insect eaters, though occasionally eating a little fruit, which they fairly earn by their usefulness. Though some kinds have a habit of pecking shallow holes in the bark of apple trees, apparently to suck the sap, yet it has never been shown that this does the tree any injury, the holes scarcely extending half through the bark. Several of them are rare in collections, but these kinds are found chiefly on the highest parts of the Sierra Nevada.

Six species of humming birds are known to be found in this State, and are great destroyers of insects, though they also suck the honey from flowers. Specimens of the kinds found east of the Sierra Nevada are very much wanted.

There are about twenty-two species of the swallow and flycatcher families in California, of which none are noteworthy as needing protection, since their well known and wholly insectivorous habits make them welcome everywhere. The cliff swallow alone is driven away from the eaves of some houses where it attempts to build its bottle shaped nest, because some persons accuse it of harboring bed bugs in its nest. This requires investigation, as it is very probable that these insects are not true bed bugs, but a kind of bird lice resembling them, and not likely to trouble human beings. Almost every bird is infested with some kind of parasitic insect, and generally those found on each kind of bird differ from all others, and will not trouble any other bird. If bed bugs really do infest swallows' nests, they doubtless go into them from the house on which they are built, and not brought there by the swallows themselves.

The western whippoorwill, and night hawk or "bull bat," are the nocturnal insect eaters in the class of birds, just as the bats are among the mammals.

The ridiculous superstitions which careless observation and reasoning

on the habits of animals produces, is shown by the name of the European representative of this family, which being seen to fly around the herds of goats at dusk in pursuit of insects, and being found to have very wide mouths with which it *ought to be able* to suck goats, was wisely named the goat sucker, and this name sticks to it even in this age of enlightenment and careful observation.

We have now to mention an extensive group of small birds, of which the thrushes, warblers, wrens, etc., are insect eaters for the most part, only occasionally varying their food by eating fruits and berries. Most of them are sweet singers, and their little pilferings in the garden should be considered as nothing in comparison with the good they do by killing insects. They may be recognised as a group by their generally slender and rather weak bills, and there are about fifty species of them found in this State. Most of them frequent groves, and many are confined, as far as known, to quite limited ranges of country, being quite rare in the agricultural districts where trees are scarce.

Another group of about fifty species of small birds of California, subsist chiefly on seeds, grains, and berries, and some of them are considered great pests by farmers and gardeners in the fruit season, or where garden plants are cultivated for their seeds. The common redheaded linnet of California is an example everywhere known, and the group is distinguishable by having the bill more or less smaller and strong compared with that of the insectivorous group. Yet even these birds destroy great numbers of insects, especially in the breeding season, when they feed their young entirely on insects until nearly ready to fly. Indeed, many kinds subsist so generally on insects that it is scarcely possible to say to which of these groups they belong, and their bills generally show a corresponding slenderness. On this account the naturalists have abandoned the division of the small singing birds in this way, and I only use the divisions as a convenient mode of showing their influence on agriculture.

The omnivorous land birds of California include about twenty species of the families of the orioles, meadow lark, blackbirds, crows, jays, and magpies. These are among the commonest about the farms, and some of them are the most persecuted of any of our birds. But it has been ascertained by careful observation of their food and habits, that when not in extraordinary numbers, even the crows and blackbirds do more good than harm. For one grain of corn that they eat they destroy a hundred grubs and caterpillars, of the very kind most destructive to crops, and by frightening them away from the fields and garden crops by use of paper scarecrows, they become benefactors at other seasons. Farmers often wonder why the fields nearest the house, and in the best cultivated districts, should be the most subject to attacks of insects. It is easily explained by the fact of the destruction of the birds, and especially of those that go in flocks, and can thus in one hour clean a field of insects more effectually than a farmer can in a month. The two first above mentioned rarely if ever eat grain, and their bills are weak and slender, compared to others.

The pigeon family, of which we have only three wild species, never eat animal food at all. The domestication of our large and handsome wild pigeon, a species not found east of the Rocky Mountains, would be an interesting experiment to those who can obtain eggs and set them under the tame pigeon.

The gentle and harmless dove seems in a fair way of extermination in some districts by the vile habit of cockney sportsmen of shooting them in pairs as they set on the nest, too confidently built near roadsides and

houses. The ground dove, a very small kind, has not yet been observed north of Fort Yuma.

The birds of the gallinaceous order, like the common fowls, have about seven species in California, but there may be others toward the north not yet observed within our limits. The blue grouse, confined to northern and lofty mountains, can take pretty good care of itself, but ought to be carefully protected during the breeding season by game laws, to prevent its extermination in settlements. It is doubtful whether it can be domesticated, though we have heard of no experiments in that way.

The sage fowl, found only in the eastern part of this State, east of the Sierra Nevada, is worthy of careful attempts to domesticate, as the male bird grows nearly as large as the turkey, and is excellent food, where it does not live on the wild sage, or artemisia.

The sharp-tailed grouse, or prairie chicken, inhabits only the northeastern corner of this State, and we look with much interest for its successful naturalization in the valleys. This is already begun in Napa Valley, according to a late newspaper, and from the nature of the regions it inhabits elsewhere we can see no reason why it should not succeed.

The western ruffed grouse, or "partridge" of some settlers, and "pheasant" of others, does not seem to come far into California, though very common in Western Oregon.

We have three beautiful species of quails, inhabiting respectively the mountains, western valleys, and Colorado Valley, all of which flourish around farms and do no damage, while they furnish excellent amusement to the sportsman and delicate food. They deserve careful protection during the breeding season, and will often become so tame as to come and feed with the barnyard fowls.

The cranes and herons form a link between land and water birds, and are represented in California by ten species, which live chiefly on fish, but also destroy reptiles, mice, etc., the sandhill crane also eating some kinds of vegetables, and frequenting dry lands more than the others, where it lives chiefly on grasshoppers in summer. The smaller waders, such as plovers, snipes, sandpipers, curlew, rails, etc., have nearly forty representatives in this State, of which nearly half are confined to the sea shores. They are of little interest to farmers, except as game, and the few kind that frequent dry lands feed chiefly on insects. Most of these visit us only in the wet season. Our web-footed birds number over eighty species, of which most are confined to the ocean or its vicinity. Those most interesting to farmers are two species of swan, four of geese, three of brant, and twenty-five of duck—teal, sheldrake, etc. Most of them are excellent as food, and none injurious except the flocks of geese, which destroy some wheat in the spring. Judging from the rapidity with which they are being exterminated, it will not be many years before they will be scarce enough to satisfy the most economical farmer.

It is impossible to point out to those unacquainted with their scientific names, the kinds most worthy of collection among our birds; many of those enumerated among our three hundred and fifty species having no popular or even fixed English name. But besides those before mentioned, all swallows perfectly black, or only black and white, the nighthawks of various districts, small fly-catchers, warblers, wrens, snipes, and sandpipers, from their summer resorts with their nests and eggs; petrels, puffins, terns, and loons or grebes, from their breeding places, are most likely to prove new or rare. At any rate their nests and eggs, together with those before mentioned, provided the species of bird is correctly known, can scarcely fail to be of great interest, together with informa-

mation on their habits. To be sure of a bird's nest and eggs, it is necessary at least to see them together, and those not well acquainted with birds, should always inclose a skin of the bird, or at least a head and wing with the nest, so that it may be determined. This may be mill-dried, and wrapped separately from the eggs, which must be carefully packed in cotton, or other soft substance, either in the nest or in a small box.

REPTILES AND BATRACHIANS.

These are popularly classed together, although Agassiz and others consider the latter as a class of equal rank with the former, comprising toads, frogs, salamanders, and other forms without scales; of both together we have ninety-five species in California, and probably more are to be discovered. They are all beneficial to agriculture, their food consisting of insects, mice, and other small vermin. The only kind absolutely hurtful, is the rattlesnake, no other kind being poisonous, although ignorance and prejudice have unjustly charged the whole class with noxious characters.

The large land tortoise, of the Mojave regions, the turtles of the Colorado River, all the lizards, snakes, horned toads, frogs, and salamanders, especially from the frontiers of the State, should be collected, as the species are still little known.

Whiskey and other poisonous liquors, obtainable almost everywhere, will preserve reptiles very well, if not too much weakened, and if the specimen is well soaked, and then put in fresh liquor. In this way, the "chain lightning" and other vile compounds may be made to contribute much to our knowledge and benefit.

INSECTS INJURIOUS TO AGRICULTURE IN CALIFORNIA.

BY H. H. BEHR, M. D.,

ENTOMOLOGIST TO THE BOARD OF AGRICULTURE.

Cultivation of the soil, whether it be agriculture or horticulture, and even the raising of stock, produces gradual changes in the fauna of a country, and this change takes place most speedily and thoroughly in the insect kingdom. Species which formerly abounded will retire before the husbandman, and take refuge in the mountains or swamps, and others which were at first known to naturalists as extremely rare, will increase and overrun whole districts.

We have already witnessed this phenomenon on a large scale in California. For instance: *Halisidota Salivis* (Behr) was formerly very common, and is now nearly extinct. On the other hand, *Pyrameis Carya* (Whit.) first made its appearance in eighteen hundred and fifty-two, has multiplied in the vicinity of San Francisco to such an extent that it is now one of the most common species of butterfly.

It is the constant "struggle for existence" in the animal and vegetable kingdom which produces these effects, and as this struggle goes slowly on, and passes through many phases, the change of species also takes place almost imperceptibly.

Agriculture can hardly be said to have existed in California for more than a dozen years, and of course the balance between the different provinces of creation has as yet been but slightly disturbed. Some insects which at present are quite rare, may in the future become very troublesome. I give here a catalogue of some species of Lepidoptera which have heretofore proved destructive, and of some others which in the future may do harm. The present is more the time to collect material, than it is to work out an elaborate treatise on a subject in which our experience is so limited.

LIST OF LEPIDOPTEROUS INSECTS SO FAR KNOWN TO BE INJURIOUS TO VEGETATION.

1. *Heliothis umbrosus* (Grote.)—I can find no difference between the Atlantic insect so destructive of the cotton, and our Californian which

attacks the Indian corn. The female moth deposits several eggs in the blossoms of the corn, and the caterpillars grow with the growth of the ear. I do not know that this insect is abundant enough to cause serious ravages in the fields; but they are, at any rate, rather disagreeable when boiled with the green corn.

2. *Heliothis* sp.—This as yet undescribed species attack the pods of artechauds. (*Cynara*.)

3. *Agrotis*—Several species, so nearly allied to the European *suffusa*, *saucia*, *tritici*, *lidia*, and their North American congeners, that up to this time it has been impossible for us to identify the species.

All of these species are polyphagous, but attack, in preference, garden vegetables. They bury themselves during the daytime in the ground, near the roots of the plant, whose leaves they devour during the night. In the year eighteen hundred and fifty-six they did considerable damage in the potato fields in the southern part of the State.

4. *Mamestra adjuncta*, (Borsd.)—I am not certain whether our Californian is a local variety of this Atlantic insect, or a distinct species. This insect in former years only attacked garden vegetables, but last year it augmented to such an extent in some parts of the State, that it attacked almost every plant, from the *cerealea* to the grapevine.

The above is the only species of *lepidoptera* which, to our knowledge, have as yet proved detrimental.

The following is a catalogue of the suspicious ones:

1. *Pyralis farinalis*, (L.)—Attacks all farinaceous substances, and also grain after it has been stored for some time. The insect seems to have been introduced from Europe, for as yet it is very rare.

2. *Ennomos*, sp. polyphagous.

3. *Clisiocampa*, sp. similar to *C. Americana* and *C. Neustria* of Europe. At present this insect chiefly attacks shade trees. It is to be suspected. At the same time, we may point out a peculiar dusty secretion of the caterpillar, which produces a very disagreeable urtication on the human skin, and may prove as deleterious as that of the European.

4. *C. tenucha humeralis*.—This peculiar species feeds, it is true, only on *quercus agrifolia*, but it strips these trees in some seasons so entirely of all foliage, that in coming years it may do serious harm, by destroying the whole growth of timber in localities where this species is the only tree.

5. *Sphinx quinquemaculata*.—At present not very plentiful. Feeds on potatoes, tomatoes, capsicum, and other *solanaceous* plants.

6. *Philampelus Achæmon*—Feeds on the grapevine; at present rare.

7. *Spilosoma Acræa*—Common on all salt marshes. Gets occasionally into gardens in sufficient numbers to do some harm.

8. *Papilio Rutulus* and *P. Eurymedon* feed on fruit trees, and are in some parts of the State constantly though slowly increasing.

From the foregoing lists, it will be seen that the number of *lepidoptera* in California injurious to vegetation is very small, and it is to be hoped that the catalogue will never be much enlarged.

H. H. BEHR, M. D.

THE GRASSES OF THE STATE.

BY PROF. H. N. BOLANDER,

ONE OF THE BOTANISTS TO THE BOARD.

I have the honor of submitting an enumeration of the California grasses. It would be mere folly on my part to attempt to make a full comprehensive report at present. Years may elapse before our grasses are all and thoroughly known. Yet, we are nevertheless enabled to draw some inferences from those facts that are known. There is but little doubt that California will be obliged to import foreign fodder grasses, provided there are such that are adapted to our peculiar climates. It might be easy yet to find suitable grasses for those portions of this State that are situated within the foggy region along the coast, especially west of the Redwoods; but insuperable difficulties present themselves in reflecting upon proper material for the interior valleys and foot-hills.

For the coast I would recommend to experiment with:

1. *Poa pratensis* (L.)—Green meadow grass.
2. *Festuca pratensis* (Huds.)—Meadow fescue grass.
3. *Arrhenotherum avenaceum* (Beauv.)—Oat grass.
4. *Lolium perenne* (L.)—Ray or rye grass.
5. *Dactylis glomerata* (L.)—Orchard grass.

All these species I saw doing quite well in localities where they have not been watered; especially No. 3, the oat grass, looked particularly bright and promising.

For meadows in Santa Rosa and Russian River Valleys, where some of them seemed to be quite wet, the following grasses might warrant a success:

1. *Dactylis glomerata* (L.)—Orchard grass.
2. *Alopecurus pratensis* (L.)—Meadow fox tail.
3. *Phleum pratense* (L.)—Timothy, herd's grass.
4. *Cynosurus cristatus*—Crested dog's tail grass.

Through a letter written by C. J. Croft, U. S. A., I obtained some valuable information about four species of grasses growing in Arizona. It is not improbable that some of them might do well in the interior. The agricultural department ought to secure seeds thereof, and make

the necessary experiments. The entire matter relating to these species was published in the proceedings of the California Academy, Vol. III, p. 205. I subjoin their names:

Pleuraphis farnsii (?)—Lowland grama.

Aristida purpurea—Highland grama.

Muhlenbergia pungens—Black grama; grama China.

Sporobolus airoides (Trin.)

In Dr. F. Mueller's (Director of the botanical gardens at Melbourne) annual report I find the following passage relating to a grass of this western coast: "Amongst the latter, the so-called Californian prairie grass, *bromus unioloides* of Humboldt, has far surpassed in its yields all other kinds hitherto experimented on in this garden; and as a perennial species, of broad blade and of nutritive properties, prolific even in dry ground, and capable of enduring the influence of our occasionally scorching summer heat, this grass is entitled to a general introduction on our pastures."

ENUMERATION OF CALIFORNIA GRASSES.

ORYZÆ.

Leersia oryzoides (Sn.)—Rice cut grass.

Banks of Cache Creek, Lake County; October. Eastern States and Europe. Valueless for agricultural purposes. It is undoubtedly introduced.

PHALARIDÆ.

Phalaris Canariensis (Lin.)—Canary grass.

Occurs sparingly near settlements. Yields the canary seed. Introduced; April; annual.

Phalaris intermedia (Bosc.)

Wet meadows—Oakland, Santa Rosa, and Russian River Valley. Farmers call it "California Timothy." This grass is exceedingly variable as to size, from six inches to five and eight feet. Valueless. Appears to be an introduced grass. April; annual.

Phalaris amethystina (Trin.) (?)

Gulches and ravines, Oakland hills, Angel Island, Clear Lake; also in the southern counties. It forms immense tufts, and attains a height of four to eight feet. Valueless; April; perennial.

Hierochloa macrophylla (Thurb.)—Large leafed vanilla grass.

Redwoods of the Coast Range, especially in Marin County. Blossoms quite early in March and April; forms large tufts in loose soil, and has a very agreeable scent, which it retains after being cured, to a considerable degree. My horse ate it; but I am in doubt as to whether this could be considered as a general fact. Taking all into consideration, it must be set down as valueless for agricultural purposes. Perennial.

Holcus lanatus (Lin.)—Velvet grass.

Wet and sandy places near San Francisco, and Mission Dolores, Eastern States, and Europe; undoubtedly introduced; useless for California. In Europe it is considered an inferior grass, and tolerated only when nothing better can be substituted. April; perennial.

Beckmannia erucæformis (Host.)

Wet places at Morago Valley, Ukiah, and Capella, Mendocino County. At the latter place it grows quite abundant around a pond. It is a tall grass, with soft culms. I am not able to say anything in regard to its agricultural value. The distribution of this grass is most curious; it occurs in Japan, Asia, Southern Europe, and on this western coast; even within the arctic circle. April; annual.

PANICEÆ.

Passalum distichum (Lin.)—Joint grass.

Borders of Clear Lake and Cache Creek; Eastern Southern States. From its manner of growth, I should consider it useless for California. October; perennial.

Panicum dichotamum (Lin.)

Sierras; valueless.

Panicum thermale (Bol.)

Geysers, Sonoma County; upon warm disintegrated soil. This may prove to be a variety of the former only. Valueless; April.

Panicum cons-galli (L.)—Barnyard grass.

Banks of Napa Creek, Sacramento Valley; mostly of a very large size; Eastern States, and Europe. Usless; October; introduced.

Panicum capillare (Lin.)

Clear Lake, Owen's Valley, Virginia City, (Mr. Bloomer.) Seems to be pretty well dispersed all over the State. Useless for agricultural purposes. October; annual.

STIPACÆ.

Eriocoma cuspidata (Nutt.)

Sierras, thence eastward. Its value is not known; from its very character, I should consider it of but little use, if any. July and August.

Stipa eminens (Cav.)—Feather grass.

Very common on dry hills and meadows—Santa Rosa Valley. Grows always in rather small tufts, having numerous short and narrow root-leaves. Its value not definitely known. April; perennial.

Stipa setigera (Presl.)—Feather grass.

Sierras. "The most common and valuable bunch grass of the dry hills." (Prof. Brewer.)

Stipa chrysophylla (E. Desv.)—Feather grass.

Santa Inez Mission, (Prof. Brewer.) Do not know the species.

Stipa occidentalis (Thurb.)—Feather grass.

Collected by Prof. Brewer. Unknown to me.

Stipa viridula (Trin.)—Feather grass.

Sierras; forms small tufts. Perennial. Virginia City, (Mr. Bloomer.)

Aristida Californica (Thurb.)—Calif. triple-awned grass.

Collected by Prof. Brewer. Unknown to me.

Aristida purpurea (Nutt.)—Highland grama.

This species occurs largely in Arizona, and it is probable that it is found in Southern California.

AGROSTIDEÆ.

Aegopogon cenchroides (Willd.)

Collected by Prof. Brewer.

Alopecurus pratensis (Lin.)—Meadow fox tail.

Walnut Creek (Prof. Brewer); moist meadows near Ukiah City. This species is one of the best fodder grasses of Europe; but as it requires a moist soil, it is doubtful whether it will thrive with us. April; perennial.

Alopecurus geniculatus: variation, *aristulatus* (Michx.)—Wild water fox tail.

Various places; Virginia City (Mr. Bloomer.) Useless; perennial.

Phleum pratense (Lin.)—Timothy; herd grass.

Various places, but always sparingly. Its cultivation has been tried in California, but with what success I could not learn. Perennial. Our farmers are well acquainted with this species. In Europe there is less thought of it than in the Eastern States.

Phleum alpinum (Lin.)—Mountain timothy.

Sparingly at Fort Point. Sierras, (Dr. Hillebrand.) April.

Vilfa ———.—Californian rush grass.

A tall, coarse, rough, glaucous grass, forming very large tufts in springy places, generally on little flats; Sierras; quite common in the vicinity of Auburn and Forest Hill; July to September; perennial; useless.

Vilfa asperifolia (Nees. Meyen.)

Owen's Valley; Virginia City (Mr. Bloomer.) A low, creeping grass, with long subterranean suckers forming mats. June, July; use doubtful.

Vilfa tricho lepis (Torr.)

Eastern portion of the State; use doubtful.

Vilfa ———.

Sierras. A low, tufted grass, apparently quite common; use doubtful. July.

Vilfa airoides (Trin.)

Southern California (Dr. Cooper.) Mr. C. J. Croft, of the United States Army, writes from Arizona: "A portion of the Gila Valley is covered with this species. Animals eat it readily when green. It is, however, a powerful diuretic."

Agrostis vulgaris (With.)—Redtop.

Various places throughout the State; introduced; generally known.

Agrostis alba (Schr.)—White bent grass. Fiorin grass.

But little observed in this State. (?)

Agrostis verticillata (Vill.)—Whorled bent grass.

Wet places, especially watercourses; San Francisco; San Leandro. It is frequently found growing with *Poa annua* and *Polypogon fugax*, on borders of moist sidewalks in San Francisco. Here it blossoms all the year; perennial; useless. New Mexico; Southern Europe; Western Asia.

Agrostis exarata (Trin.)

This is the most variable grass of this coast; from three inches to three and four feet high; panicle either contracted or moderately spreading. When large it is a coarse, rough grass, and avoided by cattle. Moist, swampy places on the coast up to Mendocino City; dry hills near Auburn. April, May; annual.

Agrostis pallens (Trin.) (?)

San Francisco. But little observed.

Agrostis pallida (Dec.) (?)

This species is called redtop by the farmers in Russian River Valley. They do not like it as a fodder grass. It forms large tufts in rather moist meadows. Perennial.

Agrostis scabra (Willd.)—Hair grass.

Sierras (Dr. Hillebrand.) Little use, if any.

Agrostis varians (Trin.) (?)

Sierras (Professor Brewer—Dr. Hillebrand.) Use doubtful.

Agrostis Hillebrandii (Thurb.)

Sierras (Dr. Hillebrand.) Little known as yet.

Muhlenbergia debilis (Trin.) (*M. Purpurea*—Nutt.)

San Luis Obispo (Prof. Brewer.) Of little use, if any at all.

Polypogon monspeliensis (Desf.)—Beard grass.

Wet places; Oakland hills; San Francisco. Common; useless; April; annual.

Polypogon fugax (Nees.)

Wet places; also salt marshes; Oakland. April; useless; annual.

Gastridium australe (Beauv.)

Dry hills, everywhere. This grass makes its appearance quite late in the season—July and August. It is one of those few annual gregarious grasses that cover our hills. Many consider it an introduced species; but its general distribution over the State, its very character, and the fact that it is a native of the countries of the Mediterranean, (with whom we have so many plants in common, especially of the lower orders,) induce me to look upon it as an indigenous plant. Chile. No definite opinion regarding its value.

ARUNDINACEÆ.

Calamagrostis Canadensis (Michx.)—Blue point grass.

Sierras (Dr. Hillebrand.) Useless.

Calamagrostis Breiveri (Thurb.)

Sierras. (Professor Brewer.) Not sufficiently known in order to decide its agricultural value.

Calamagrostis alantica (Trin.)

North hillsides and swamps; Oakland hills; San Francisco. This is

a very coarse, tall species, forming large tufts; leaves very long and wide, generally breaking off a little above the sheaths. During winter, when feed is rare, it is eaten by cattle. June; perennial.

Calamagrostis sylvatica (Dec.)

Hillsides of the Coast Range, Santa Clara, Searsville, Mendocino County, near Big River City. Forms large tufts when in rather sunny localities, while it remains single in shady woods. June; perennial; use doubtful.

Calamagrostis — (?)

Swamps near Mendocino City. August; useless.

Phragmites communis (Trin.)—Reed.

Banks of Clear Lake, salt marshes at Suisun. October; perennial; useless.

CHLORIDÆÆ.

Cynodon dactylon (Pers.)—Bermuda grass—scutch grass.

San Francisco; in gardens. Valueless for California.

Spartina stricta (Roth.)—Salt marsh grass.

Salt marshes of the Bay of San Francisco. Useless. August, September; perennial.

Bouteloua oligostachya (Torr.)*Bouteloua polystachya*.

Both were collected in Southern California. I do not know if they are of any value or not.

Pleuraphis rigida (Thurb.)—Lowland grama.

Southern California, (Dr. Cooper.) Useful.

AVENACEÆ.

Aira elongato (Hook.)—Elongated hair grass.

Moist places; Oakland hills, San Francisco. Does not seem to be eaten by cattle. April; annual.

Aira danthonioides (Trin.)

Moist meadows; Oakland, where it forms a large portion of the main bulk in some meadows; in others it occurs very sparingly. It is also rather common in the meadows of the Russian River Valley. It surely will not yield a large bulk of hay. April; annual.

Aira holciformis (Presl.) (?)

Moist meadows; Mission Dolores, Oakland, Mark West's Creek. It yields a large bulk of hay in moist meadows, but of what quality I am not able to say. April; perennial.

Aira caespitosa; variation, *longiflora*.—Hair grass.

Eureka, (Mr. Schmitt.) Sierras, (Dr. Hillebrand.) Of no use.

Trisetum cerneum (Trin.)

Dry hillsides near Bay of San Francisco, and Oakland hills; also, on the banks of Santa Rosa Creek. I should consider this species not altogether valueless; it surely deserves further attention. March, April; annual.

Trisetum subspicatum (Beauv.)

Sierras, (Doctor Hillebrand and Professor Brewer.) Value doubtful.

Trisetum — (?)

Moist meadows and hillsides; Oakland, Russian River Valley. A pretty tall species. I should consider it worth trying. April; annual.

Avena fatua (Lin.)—Wild oats.

This is yet our best fodder grass, save the cereals sown expressly for the purpose of making hay. Europeans look upon it as a pest, and volumes have been written suggesting means how to rid the fields from it. It has a wide, almost universal range; it occurs throughout Europe, having advanced from the countries of the Mediterranean, and Peru. It is, however, fast disappearing in California, on account of the country having been overstocked. Many are of the opinion that this is also an introduced species. I am of a different opinion. My reasons are substantially the same which I stated under *Gastridium australe*. April; annual.

Arrhenatherum avenaceum (Beauv.)—Oat grass.

Observed last September in a cultivated field at Mendocino City, where it had been sown with *Holcus lanatus*. Both grasses looked remarkably well. I am inclined to believe that some of the best eastern and European fodder grasses would do quite well in fields west of the Redwoods, along the coast. In Germany it is known under the name of "French ray grass." The roots are stoloniferous, perennial, and spread rapidly; the culms attain a height of three to five feet; leaves plentiful and large. It yields a large bulk of hay in dry fertile soil. Although the term "dry," in Germany, would not apply to Californian meadows, yet it would be advisable to experiment with this species. The appearance of that small field at Mendocino City is surely encouraging.

Danthonia Californica (Bol.)—California wild oat grass.

Dry meadows at Oakland and Mission Dolores. Rather a rare grass. April; perennial; useless.

Tricuspis pulchella (Torr.)

Southern California, (Doctor Cooper.)

TESTUGACEÆ.

Poa annua (Linn.)—Low spear grass.

Moist places everywhere; useless.

Poa pratensis (Linn.)—Green meadow grass.

Meadows at Oakland, sparingly. It seemed to do very well. Roots stoloniferous; perennial; April. Thrives best on rather dry meadows.

Poa trivialis (Lin.)—Rough meadow grass.

Sparing in meadows, more frequently on dry hillsides, especially among the chapparel of the Coast Range. It is doubtful whether this grass has been introduced. April; useless?

Poa — (?)

Collected at Eureka, by Mr. Schmitt. Too little known to me.

Atropis Californica (Munro)—Squirrel grass.

"The foliage very fine, and considered of no value. Comes in after the wild oats have become exterminated by close feeding."—(Professor Brewer.) Very common throughout the State; perennial; March, April.

Brizopyrum Douglasii (Hook.)

On drifting sand west of San Francisco, and near Bolinas Bay. It is a low, beautiful, diœcious, perennial grass, with extremely long runners, which are well adapted for fixing the loose and flowing sands advancing with fatal sureness upon our city. April; as a fodder grass, useless.

Brizopyrum spicatum (Hook.)—Spike grass.

Salt marshes near the Bay of San Francisco, and upon saline soils in the interior. Useless for agricultural purposes. April.

Briza media (Lin.)—Quaking grass.

Borders of a run near Mission Dolores. Of the same species I received some time ago a panicle from Owen's Valley. It seems to have been but lately introduced. Of little value. May; annual.

Glyceria nervata (Trin.)—Manna grass.

Sierras and Mendocino County. Useless.

Glyceria maritima (Wahl.)—Sea spear grass.

Eureka, (Schmitt); San Francisco; on tide lands. May; useless.

Glyceria pauciflora (Presl.)

Wet and swampy places near San Francisco. April; seemingly useless.

Glyceria aquatica?

Ukiah City; borders of a creek.

Lophochlaena Californica (Nees.)

Wet meadows; Oakland, Santa Rosa Valley, Ukiah. A beautiful and tender species of grass. Horses and cattle are very fond of it. It is not capable of resisting heavy winds, when grown alone. Mixed with other grasses, it would do most excellent. This is likely the only truly uncontested indigenous grass of California deserving especial attention. Annual; April; gregarious in manner of growth.

Melica imperfecta (Trin.)—Melic grass.

Forms large tufts in shady places. Quite common; useless for agricultural purposes. April; perennial.

Melica poaeoides (Nutt.)

Dry, sunny hillsides, forming large tufts. Shunned by cattle and horses. April; perennial.

Melica stricta (Bol.)

Silver Mountain, (Dr. Hillebrand); Virginia City, (Mr. Bloomer.) Valueless.

Melica ———?

Shady hillsides; Ukiah City. A very tall grass, with bulbous roots. Useless for a fodder grass. April; perennial.

Koeleria cristata (Pers.)

Dry hills; Oakland, San Francisco, Cloverdale. Readily eaten by cattle, although none of the best of fodder grasses. This species has also been considered an introduced grass. Its very character suggests its being an indigenous grass. April; perennial.

Dactylis glomerata (Lin.)—Orchard grass.

Very sparingly in cultivated fields near San Francisco. It has been cultivated at large, but with what success I do not know. Introduced.

Cynosurus cristatus (Lin.)

In cultivated fields, lawns. Introduced.

Festuca Myurus (Lin.)

Dry hills and moist, shady places. It is one of those few gregarious grasses of California. April, May; annual; of no special value as a fodder grass. Southern States, Europe.

Festuca microstachys (Nutt.)—Gramma.

A very polymorphous species; becomes quite gregarious in light shady woods and north hillsides; otherwise its manner of growth is rather dispersed. Annual; April; of little use.

Festuca scabrella (Torr.)—Bunch grass.

North hillsides and lightly shaded woods; the less shaded, the larger the tufts will be. The grass blades are very long, and break off just above the sheaths. During the winter cattle are fond of it, for one meets rarely a tuft early in spring which is not fed down. Very abundant along the shady hillsides of the Coast Range. April; perennial.

Festuca pauciflora (Thurb.)—Few-flowered fescue.

A pretty tall species on shady hillsides and lightly shaded woods. Forms generally tufts; leaves, large and plentiful from root-stocks. Seemingly of some value. April; perennial.

Festuca ovina (Lin.)—Sheep's fescue grass.

Sparingly dispersed; Oakland hills. Yields little—but nutritious food. April; perennial.

Festuca pratensis (Huds.)—Meadow fescue grass.

Tomales Bay. April; perennial. This is one of the best European fodder grasses; it yields a large bulk of hay of superior quality; thrives well in dry and wet meadows, if the soil is fertile. Farmers on the Coast Range should give it a trial.

Bromus sterilis (Lin.)—Chess.

Mission Dolores. Introduced. Valueless.

Bromus racemosus (Lin.)—Upright chess.

Oakland hills, in cultivated fields, and roadsides; spreading rapidly, and exterminating indigenous species. Useless. April.

Bromus secalinus (L.)—Cheat, or chess.

Only seen from the northern coast.

Bromus ciliatus (Lin.)

Hillsides and lightly shaded woods. Useless; April, May; perennial.

Bromus vireus (Nutt.)*Ceratochloa grandiflora* (Hook.)

Sunny hills, Oakland, Cloverdale; in fact throughout the State. When growing near the bay, or in rich, moist soil, this grass attains an enormous size, and becomes quite coarse and useless; but on dry, sunny hill-sides it remains small and tender, and as such is eaten by cattle. April, May; perennial. (?)

Lolium perenne (Lin.)—Ray, or rye grass.

Quite sparingly; always near dwellings. Introduced. April, May; perennial.

Lolium tremulentum (L.)—Bearded darnel.

Very common among grain; Oakland, and other parts of the State. As grains of this grass are considered to be noxious, and even poisonous, it may be proper to cite the opinions of various authors.

"Haller affirms that this species of *lolium* not only produces intoxication, as its trivial name implies, but that if baked into bread, or fermented in ale, its administration is attended by very disagreeable and even fatal effects. It produces headache, vertigo, vomiting, lethargy, drunkenness, and difficulty of speech, and the tongue exhibits a very strong trembling. Seager further remarks, that a trembling of the body is one of the most certain signs of poisoning by this plant. It also affects with blindness for several hours. By the Chinese laws—for this plant is found both in China and Japan—it is forbidden to be used in fermented liquors. Some of the intoxicating qualities of factitious beer are said to be owing to the admixture of darnel with the malted barley. According to Withering, horses, geese, etc., are killed by darnel, and dogs are particularly subject to its influences, mixed in small quantities with their food. It is, however, said to fatten chickens and hogs. In the *Medical and Physical Journal*, there are placed on record several cases of poisoning, by darnel, in the human subject. In these, giddiness in the head, pain, and swelling of the limbs, succeeded by abscess and gangrene, were the most prominent symptoms. One of the sufferers lost both his legs."—*Burnett's Outline of Botany*, p. 365, published 1865.

Geiger gives in his *Pharmac. Botany*, 1839, an analysis of the grains made by Bley. According to this analysis its effects are only slightly narcotic.

Notwithstanding these conflicting statements, it would be nevertheless desirable to guard our farmers against this suspicious intruder, that spreads with fearful rapidity over the cultivated fields. In the vicinity of Oakland, I saw for several years meadows and grain fields which contained a great amount of it. In some places it seemed to outnumber the grain or other grasses greatly. This very fact induces me to believe that the noxious or poisonous properties cannot be of a serious character. I know of but one instance, that a farmer had observed some deleterious effects on cattle having been fed on this very grass. Experiments would be very desirable.

Triticum repens (L.)—Couch grass; quitch grass; quick grass.

Almost everywhere; generally near or in cultivated fields. It is an exceedingly troublesome weed, multiplying rapidly by its creeping slender runners, layers, root stocks. With us, in fields near the bay, it attains an enormous height, and grows often dense enough to give it the appearance of a rye field. Its long, slender, creeping, straw colored root, is officinal; it is scentless, and of a sweetish, slimy taste. April, May.

Triticum caninum (L.)—Awned wheat grass.

Sierras, (Dr. Hillebrand.) This species differs mainly from the preceding by not having creeping roots. As far as I know, it is of no agricultural value.

Triticum violaceum (Hornm.)

Sierras, (Dr. Hillebrand.) This may be only a variety of the former.

Elymus Sibiricus (Lin.)—Siberian lyme grass.

Common everywhere. April, May; entirely useless.

Elymus condensatus (Presl.)—Giant lyme grass.

Borders of sloughs (Oakland) and rivers, San Leandro, Carmel Creek, Santa Barbara. This is the largest species of California grasses, three to twelve feet high. Its spike is often from eight to fourteen inches long, and very dense. At a distance these large spikes appear like those of millet, (*Panicum Italicum*.) It seems to do excellent service, by fixing the soil on the banks of creeks and rivers. June—September; perennial.

Sitanion elymoides (Rafn.)—Squirrel lyme grass.

Dry sunny hills, everywhere; easily recognized by its very long awns, generally of a reddish tint. They do not look unlike a squirrel's tail. April—May; perennial. Useless for agricultural purposes.

Hordeum pratense (Huds.)

Quite common in many meadows; in some it makes up a considerable portion of the bulk of hay. It is valueless; April—May.

Hordeum pusillum (Nutt.) *Hordeum jubatum* (Lin.)—Squirrel-tail grass.

This species has come but sparingly under my observation. Useless; April, May, and June.

Hordeum murinum (Lin.)—Wall barley.

Spring Valley, Mission Dolores, in roads and lots. If allowed to insinuate itself into meadows it injures the hay, and lessens the value of the crops. Its strong beards (awns) hurts the mouths of horses.

ROTTBOELLIACEÆ.

Lepturus paniculatus (Nutt.?)

Valley of Salinas River, (Dr. Canfield, Monterey.) Of no value.

There are known to me a few other grasses; but they have not been determined thus far. Among these is a *bromus*, a *triticum*, an *elymus*, and another entirely unknown; all are of no agricultural value.

The Geological Survey received, a year ago, some grass seeds from Dr. F. Muller, Director of the Botanical Gardens at Melbourne, Australia. These were given to me for distribution. Three different parties were supplied with some of the seeds; but of these three, only one, Mr. Nolan, of Oakland, a gardener of superior skill and indomitable zeal, succeeded in making these seeds grow. They were sown into a rather heavy clay soil, at the close of the rainy season; they were not watered, but left entirely to themselves. Considering that the seeds were sown late, and received no spring rains at all, the result must be called a happy one. In the middle of September, they were as green, bright, and thrifty, as could be desired. They had formed quite large tufts, with an abundance of leaves, and yielded considerable seed, which was permitted to drop.

The seeds were of the following grasses:

1. *Eragrostis Brownei* (Nees.)

This species attained about a foot in height, produced numerous stalks, (culms;) but its leaves are very narrow, slender, and not so abundant as with the other species. It is unquestionably the most inferior of the three.

2. *Danthonia pilosa* (R. Br.)—One of the wild oat grasses.

This species formed the largest tufts, and is apparently the most promising, although its leaves, or rather the blades of the leaves, are not so wide as those of the following.

3. *Microlæna stipoides* (R. Br.)

This grass produces less culms and smaller tuft, but its leaves, root-stock leaves, as well as those of the culms, are two to three inches long and nearly half an inch wide. The culms are very slender, two to three feet high, and leafy. All three are perennial. As there were but few plants of each kind, it was not advisable to see which is preferable for cattle.

With the above three grasses was sown another, whose seeds Mr. Nolan received under the name of Turkey grass. (It is *solum perenne*, (L.) the English ray or rye grass.) It was subject to the same treatment altogether. Seeing them side by side, (in September,) it was too evident that this species is by far the best. It had spread more and had formed larger tufts, with great abundance of leaves, which showed no signs of having suffered any by our usual summer drought. In and about San Francisco this grass is much used for lawns. It also escaped from gardens, and I frequently find it in swampy places and runs. Wherever it is daily watered, or where it is found in wet localities, it is tall, wiry, almost leafless, and coarse. This species requires a dry,

compact, hard, but rich soil; these very peculiarities and properties should make it very adaptable and suitable for California.

In the market the seeds are generally found inclosed in their husks, which are about six or seven min. long (a little more than a quarter of an inch). The seed freed from the husks is about four min. (a little over one eighth of an inch) long, and one min. wide, convex on the upper and widely grooved on the lower side. The weight per bushel varies with different parties from seventeen and one third to eighteen, twenty-one, and thirty pounds.

If this enumeration of our grasses will have the effect to induce others to direct their attention to this important subject, I shall consider myself highly rewarded.

Yours, most respectfully,

HENRY N. BOLANDER.

TREES AND SHRUBBERY OF THE STATE.

BY A. KELLOGG,

ONE OF THE BOTANISTS TO THE BOARD.

During the past year the ceaseless calls on our time and means have precluded those extensive observations and ample illustrations we so ardently desire to see adopted, and fondly hope to make in future.

Experience and observation prove that no country can long maintain a high degree of prosperous fertility without forest trees and shrubbery. It would be easy to show by historical records the unqualified truth of this remark, did not our own observation daily bring it home to us with continual emphasis. Besides the salubrity to which they conduce, and the protection they afford from the extremes of climatic influences, no springs nor streams, large or small, can be counted upon as permanent for commerce, manufactures, agricultural resources, or daily domestic use and comfort, if these first principles of a country's resources are ignored. We therefore think it pertinent to our introductory to these few short practical paragraphs on the trees and shrubs, or more obviously useful and ornamental plants of California, to most emphatically call the public attention to the subject. In the almost utter ignorance of the great mass of mankind, it is a merciful dispensation of the order of Divine Providence, that in a comparatively bare country, like many portions of our own, when the land is redeemed from its wild condition, trees and shrubs usually spring up, and the volunteer needs nothing more than a kindly welcome and reasonable and willing hands to cherish their beneficent mission. We have often led the way, as well as followed, the tide of pioneers; and also revisited our resident scenes of former vandalism, after the lapse of years, when, alas! it needed no nice observation to mark the old ruined mill, high and dry; or the huge bridge, looking like a lofty monument of folly, rampant in its ruin like one riotously drunk with manita mushroom, leaping in his illusion a thread or straw, as if it were a fallen monster of the forest. Thus have we seen, a thousand times, as any one may see in less than a day's ride, like ruins spanning little dirty sluggish rills one can step over, where only a few short years before it was almost dangerous to ford! Do you ask why, when that old significant, self-ruined mill stands there—the death's head and cross

bones of a piratical and suicidal policy that recklessly fells the mountain forests and dismantles the hills—converting the cooling streams of plenty into a dry and parched land, and making the ambrosial meadows a desert? Let any longeared skeptic—if any such can be found—take a position under a redwood tree for a few moments in a foggy day, and feel the rain—none of your Scotch mist moisture, but a real, genuine, pouring shower—come down upon his back, and it will do his mind as much good as ever pump did lunatic. Mr. Eldridge, who lives on a branch of the San Leandro Creek, in this vicinity, informs us that the springs around the Redwoods gave out as the woods disappeared; he is wiser now, and cherishes and protects the young growth more reverently.

It is painful to see even water companies, who ought to know at least their immediate interests, clearing away or allowing to be destroyed every vestige of protection to their water supplies—a course that in a few years will inevitably prove their utter ruin. Can it be possible in their avarice they grudge the servants the scant draught that enables them to serve? when the truth is, even their shadow has a thousandfold more sense in it. As the forest-clad mountains are the natural sources of all good to man, so they are the true poetical and sacred symbols of it; they are the very fountainheads of our love of liberty and sense of the beautiful, and thence intelligence; and when they, like the affections of the human heart, disappear, there also disappears the good genius of the people. Poverty, forever, let it be remembered, keeps pace with the destruction of the woods. The forests are the breasts of the rivers, that run like the life-giving arteries of the human body to their great ocean heart, and in turn again rise in vapor upon the wings of the wind; and these clouds, in an everlasting gyre, are condensed by the woods to rain, and as they are duly distributed draw and disperse the showers equally.

God has given to man the power, in a marvellous degree, to moderate his climate, soften the fierce winds and biting frosts, temper the burning ardor of the sun, say to the drifting sand and whelming flood, "thus far;" and with sweet pleasure provide for generations health, wealth, and blessings innumerable—making even the desert to blossom as the rose.

We have neither taste, time, nor space to dwell much upon details; but let us for a single moment look and listen to the lessons of wisdom which history teaches. Let us consider whether one of the greatest of social interests shall be longer left to shift for itself, and the wild boar out of the forest shall forever lay waste the beautiful heritage of unborn millions? To-day, by the wanton destruction of their woodlands, lie in ruins a great part of France, Spain, Italy, and especially Greece. In the days when Homer sang they had the climate of Germany, and Germany that of Sweden; and when there was a real Cæsar in France, olives could only grow south of forty-seven degrees; three hundred years after, as far north as the Loire, and now in Paris. All they seem to lack to make it a complete burning desert is a few more lumbermen and a little more energetic imitation of American enterprise. The modern terrific and devastating floods of the Rhone are reported by a Government commission to be due to this cause. Many are the doleful details that language is not dismal enough to describe which we could cite—actually depopulating vast districts—but we forbear. On precipitous mountains the woods should be untouched, as they detain the waters and moderate excessive rain falls, preserving a salutary equilibrium; but, if bare, the storms rush down disintegrated rocks, sand, and debris, spreading abroad a sterile expanse only fit for the wolfish sedge

grass and the worthless weed, filling up the beds of rivers, and thereby immensely increasing swamps and malarious fens, till the race removes, or cretinism and reptiles creep in and croak unmolested amid the gloomy solitudes. What then awaits the famed Italian sky, bright silver-lined clouds in gold and royal purple, and generous rain storms! They but sweep down in cursed fury—cursed, not by God, but man! They destroy, but do not water; they inundate, but do not refresh; they only come as transient phenomena, that leave the waste still more barren.

We cannot better close this important subject than by giving in substance a short historical relation, leaving to the reader its application: During the middle ages there was an uninterrupted pine forest from Danzig to Pillau, on the Baltic. King Frederick I needed money; a certain individual who wished to ingratiate himself with his sovereign said, that if he was willing to put away useless (!) things, he could get money without taxing; and the result was he began to cut down the woods. The financial operation was a success, *i. e.* the King had money. But ill fares the State to this day—winds sweep over the bare hills, and even the bays have been destroyed; reeds fill the swamps, which extend continually inland; fisheries languish, and are well nigh gone. In vain were all exertions to fasten the land by oats, willows, and trailing plants; the wind now laughs to scorn such futile exertions! Yes, financiering gave the King two hundred thousand dollars; and to-day the State is willing to pay MILLIONS to have their sweet æolian woods once more!

PURPLE CLINTONIA—(*Clintonia Andrewesiana*—Tor.)

As from the great bosom of nature all may draw somewhat of interest, so in our notices of the Californian vegetation, we propose to invite the public attention to some of the most striking and rare objects of horticultural and rural ornament, as well as those of use in the most restricted sense. We therefore select as a sample this purple lily of the valley, for the reason that it is a new native plant, now for the first time illustrated, and still little known.

The stem seen in the figure, (No. 1,) rises from a somewhat fleshy, upwardly curved, creeping root, throwing off numerous descending fibres, and clothed at the base with lance-pointed sheathing scales. The leaves mostly spring from this short root stock, and are six inches to a foot long and three to five broad, narrowed and sheathing below, very smooth, and alike green on both sides, with regular nerves running from the base to the apex, like the common plantain; the upper leaves (when present) are more lance-shaped, clasping, and each side running down the flower stem. The purple flowers are chiefly terminal, in an umbellate head, but usually with a partial or rudimentary close set umbel, and a few scattering flowers below from the axils of minuter flower leaves.

The most remarkable feature of beauty, and one we deem quite unique, is the peculiar ultramarine blue of the berries. We often see pale blue bloom and purple blue, but I cannot now recal any other instance of this peculiar, charming blue.

This plant abounds in the loose, shady soils of our redwoods.

Plants of the Solomon Seal affinity, like the present, are considered stimulant, diuretic, and of mild tonic, mucilaginous, and restorative properties.

Dedicated to Doctor Andrews, late of this State, an energetic botanist and collector, and a member of the California Academy of Natural Sciences.



PURPLE CLINTONIA—(*Clintonia Andrewesiana*—Tor.)

MONTEREY PINE—(*Pinus insignis*—Doug.)

This close cling-cone pine forms a remarkably beautiful tree, of conic form, in open and free growth, and feathered with dense, vivid, grass green foliage to the ground; but in forests it rises to one hundred feet, with fine columnar trunks, one to three feet in diameter, topped by a few irregular, much spreading branches.

Professor H. N. Bolander—recently from a tour of observation—says, (in his article on California Trees, laid before the California Academy of Natural Sciences, December fourth, eighteen hundred and sixty-five, from which we quote,) "*Pinus insignis* covers many thousand acres in the vicinity of Monterey and Carmel, forming quite a forest along the coast between these two places, sixty to one hundred feet high, one to three feet in diameter, shape very irregular, often only a few rigid, much spreading branches; foliage dense, and of a vivid green color; cones persistent, ten to nineteen whorls; bark very thick and vimose. The wood is extremely resinous, and excellent for street planks, bridges, floors, etc. Considering that there is besides this species only *P. muricata* growing in that vicinity—which could not be confounded with it—it is certainly most singular to see so many synonyms for it—*e. g.*—*P. radiata*, *P. Sinclairii*, and *P. tuberculata*—if this last should not prove to be distinct. Besides, the trees and cones are of great uniformity."

Unwilling to grow a few hundred feet above the sea, these signal pines seem designed for the ocean shore, self protected to their very feet by their own strong arms! Serene in self conscious strength, with wood of almost iron toughness, they brave the warring elements, saying to the raging winds, the roaring waves, and the restive sands—"peace, be still." And what a refreshing contrast do they present to the feeble eye, that might else fail did it not gaze heavenward from the ceaseless glare of barren sand, and soils whose vegetation lies dead, parched up, during our long and dry summer season. Long, long may the forest remnants of these grand old ensigns be lifted up on our coast hills to guard us from the devastating desert. Does any one wonder that trees of so much beauty and use should be general favorites, as this and the following pine are, to the citizens of San Francisco? The doomed city, where the desert comes drifting daily down from superb to centre, and no one to stay the hand of the spoiler! "What are you doing there?" said we to some bushwhackers, in the Lone Mountain vicinity, the other day. The self satisfied reply was: "Making improvements!"—with a vengeance, we added, and turned away heart-sickened.

Who blames the skilful and beneficent nurseryman, from some strange shore, should he sell you some miserable foreign abortion to cumber the ground, when you have neither the taste nor judgment to appreciate the native tree he offers?

Perhaps more specific details are desirable, but we fondly hope to recur to it again, with proper illustrations. Suffice it to say, the leaves are in threes; the boot, or sheath, short and smooth, one quarter of an inch long; cones like a Farralone egg, only one sided, or largest on the outer exposed side at the base; the point is turned downwards; mostly in clusters of three to five; whorled round the stem; light cinnamon color, and varnished; a short prickle in the centre navel of the scale; seeds black, with a wing about an inch long. It takes two years to ripen. Found chiefly at Point Pinos, Monterey.

THE TUBERCULATED CONED PINE.—(*Pinus tuberculata*—Don.)

This pine was first found by Dr. Coulter, south of Monterey, along with *P. insignis*, near the level of the sea, and almost close to the beach. The foliage is less dense, and duller, rather blueish-green color. It soon attains its height, of ten to thirty feet, and seems satisfied with its humble position in the world. The stem, six to fourteen inches in diameter, is horizontally branched to the very ground, with a spread of foliage nearly equalling its height. This pine seems to play second fiddle to the former, which in many respects it resembles—*e. g.* in the cones, although longer, seeds, and similar toughness of timber. This knotty, gnarly fellow is as much a match for the dead level breeze as the signal pine is for the storm that plays where the sea bird and the eagle soar. The cones cling with a death grip to the old trunk for twenty generations or more; scarcely less close than the book of fate, and just a little softer than adamant, they are, as it were, clad in a helmet of triple steel. Choice and chary of their vital element, they scatter with careful and prudent hands their seed upon the restless sands, singing sweet lullaby, timed to the echo that dies along the gale. Blessed are the wise provisions of Providence! some storms sweep over their heads; there's no "timber" here to tempt man's avarice—oft too humble, perhaps, for even his blessing and regard.

Professor Bolander, in the article above referred to—whose observations are entitled to great weight—remarks:

"*P. tuberculata* (Don.) Santa Cruz; Ukiah; Oakland hills; Forest Hill; Eureka.

"In all these localities it is a small tree, from twenty to thirty feet high, and from six to fourteen inches in diameter. The spreading branches remain, and are low; the foliage seemed to me less dense and not so vivid green as *P. insignis*. Young trees, raised side and side, showed the same differential characters. The cones from these different localities are of great uniformity, but differ essentially from those of *P. insignis* collected at Monterey. The seeds, however, resemble each other very much. Both species grow equally near the coast, but on different soils. (Whorls of cones, ten to twenty.)"

MONTEREY CYPRESS—(*Cupressus macrocarpa*—Horts.)

In our rich coast soils this tree is of rapid and gigantic growth. Clad in a beautiful cloak of emerald to his feet, with freedom to spread his branches afar, and shoot high in prosperous ambition, it takes due pyramidal proportions, and forms one of the most charming and dense trees we have ever seen. In choice localities, it falls but little short of the great and far famed Cedars of Lebanon. Where this cypress can bathe in a continual cloud, and war with the wind, though it takes the conceit out of his head, strength gathers around his heart. Humbly retracting, he becomes more even and level above; locks his long and strong arms in an everlasting alliance with his companions, assured that as his day of trial is, so shall his strength ever be.

Professor Bolander, who has just returned from Cypress Point, their famous locality, (see Proceedings of California Academy of Natural Sciences, December 4, 1865,) remarks: "*C. macrocarpa* (Horts.) Monterey! *Tamel Pais* (two thousand seven hundred feet!) Mendocino City! and southeast of Clear Lake! This species seems to be extremely

variable. At Monterey, about two miles from the coast, I saw upon exposed granitic rocks, but slightly disintegrated, specimens only six inches high, bearing perfect cones. Going westward, at the same distance from the ocean I found specimens in a depression, associated with *P. muricata*, from ten to fifteen feet high, full with cones; and extending my walk to Cypress Point—a distance of three or four miles—I was surprised in finding a large grove of this species, containing mostly large trees of great beauty and perfection. The average height may be from forty to sixty feet; and as they were (nigh at the Point) almost all alike in thickness, I measured but three, finding their circumference to be one hundred and nineteen, one hundred and four, and one hundred and twenty inches, about four feet above the ground.

"At this point these trees are almost daily enwrapped in a dense fog. Their branches are very compactly lapped and depressed, retaining the moisture to such an extent that the thick clusters of cones are quite mouldy. Between the cones and little dense branchlets settles a great deal of rubbish, which is almost dripping wet. It is undoubtedly owing to this very fact that so many seeds of this species collected there prove abortive.

"Seeing so great a variation at Monterey, I do not hesitate to refer all specimens seen at the other localities mentioned above, to this species at present.

"On the plains near Mendocino City that species exhibited about the same gradations, although not so strikingly, as at Monterey."

CALIFORNIA YEW TREE.—(*Taxus brevifolia*.—Nutt.)

We refer briefly to this tree, hoping in future to illustrate it. Professor Bolander, in his paper on California trees, December fourth, A. D. eighteen hundred and sixty-five, frequently quoted, says he "found it at Devil's Cañon, near Forest Hill! a handsome tree, twenty to thirty feet high, with extremely slender and drooping branches, dispersed, but plenty—wood very valuable."

CALIFORNIA WHITE CEDAR.—(*Libocedrus decurrens*.—Tor.)

This hardy and noble evergreen tree is reported on the Klamath Mountains, at five thousand feet elevation, and also on Scott River, in sandy soils, growing from forty to one hundred and forty feet high, three to five feet in diameter. Duffield's Ranch. At McCamber's, in the northern part of the State, it is even said to be seven feet in diameter, rivalling the sugar pine. This tree is described as flat by some; others speak of its form as conical; stem not cylindrical; bark, shreddy, fibrous; the trunk below bristling with dead, persistent branches. The trees cut for the saw mill, Doctor Newberry says he often noticed, though externally sound, were affected by a kind of dry rot, and thus honey-combed, were rendered valueless. Professor Bolander, in the article before referred to, says it is found at Forest Hill, "forming quite extensive woods there. Rancheria Creek; Mendocino County; east of Salinas River; Monterey County—by Doctor Canfield; east of San Diego; on the banks of Rancheria Creek; in the southwestern part of Mendocino County, I found a small colony of this handsome tree. The largest were about forty to sixty feet high, two to three feet in diameter. Judging from the young aftergrowth, the tree seems likely to spread. I was informed this was the only place in the county where it is found. In

the latter part of September (eighteen hundred and sixty-five) the tree had its aments strongly developed; cones decidedly pendulous."

It seems requisite, even at the risk of being obscure, to give a few descriptive details. They are, however, almost useless to the general reader without illustrations, and we are half inclined to omit them altogether, hoping better provision will be made in future. As the peculiar forms of this tree are little known, it may be stated that the cones are very small, oblong-oval, the feathery scales in opposite pairs, face to face, a few small abortive ones at the base; leaves more awl-pointed; little scales in opposite pairs running down the twigs, as the specific name implies. The generic name signifies *incense cedar*, on account of the fragrant odor when burned. Would that more incense of kindly charity to our fellow men were offered on the golden altars of California—a rest to Jehovah indeed! worthy the Golden State!

CALIFORNIA NUTMEG.—(*Torreya Californica*.—Torr.)

We simply notice this for the sake of the information concerning its localities, but shall recur to it again. We quote from Professor Bolander's communication before referred to: "Paper mill, Marin County; Ukiah; Mendocino City; Forest Hill. Generally dispersed; only at Ukiah I found quite a group; wood valuable."

POMPOUS, OR POP PEA.—(*Phaca Nuttallii*. Tor. & Gray. Perhaps more recently recognized under *Astragalus*.)

Several species of this family are also called bastard vetch, or Indian pea; to our herdsmen, and especially California woolgrowers, known by some to their sorrow, as bladder pea, rattleweed, etc. This plant has been often brought to our notice as a weed in general avoided by stock; but any careful observer may frequently see where the top has been bitten off. In close cropped fields, where horses and cattle are pinched by hunger, it is sometimes eaten, and is apt to prove fatal. Indeed, such ample testimony has come to our knowledge, from the most reliable and various sources, that there can be no doubt of its woful havoc among sheep. The close cropping alluded to is not that of low, marshy land, which is also fatal, but from quite another cause; this latter kind of close feeding causes the rot and fluke, diseases well known. On the contrary, our plant is a pest of pastures high and dry, those presumed to be best adapted for sheep grazing. The symptoms are a peculiar infatuation. When once initiated, they crop, and are strangely intoxicated; they continue to crop, and pine away and mope, half stupid. Now neglecting their busy search for other food, they more than half lose their usual lively sense of companionship, or abandon the herd altogether, taking to the weed as a sot to his cups, or as an opium eater; lured ere long to ruin, they finally die. We know of no remedy in such cases save the obvious one of knowing the cause, and using all due precaution.

We have heard of other diseases which we wish to see investigated with great care, and we hope those more immediately interested will make thorough examinations by opening the stomachs, and let their contents be made known to us, and, if possible, by sending similar plants. If reliance is placed upon the multiplicity of common (unscientific) names,

much confusion and uncertainty will result. We know that plants not absolutely poisonous to man, may still be so to the lower animals; *e. g.* Dr. L., a relation of ours, lost almost an entire herd in a single night, while crossing the Cumberland Mountains, in Tennessee. He found in their stomachs the common boneset (*Eupatorium perfoliatum*.)

We have often illustrated this pea in various periodicals, by lithograph and electrotypes, but regret to say we have none suitable on this occasion. Every available means of definite knowledge should be adopted where the community at large are so deeply interested.

RED AND WHITE LEWISIA.—*Lewisia rediviva*; variety, *alba*.

The beautiful scarlet *lewisia* with a red root has been described and figured; but the white flowered with a white root is rare, if not a new species. Our specimen of the latter, an outline sketch of which is here given—No. 2.—is from Washoe, by Mr. Andrew A. Veatch, and was grown by Mr. H. G. Bloomer, former Botanical Curator to the California Academy of Natural Sciences.

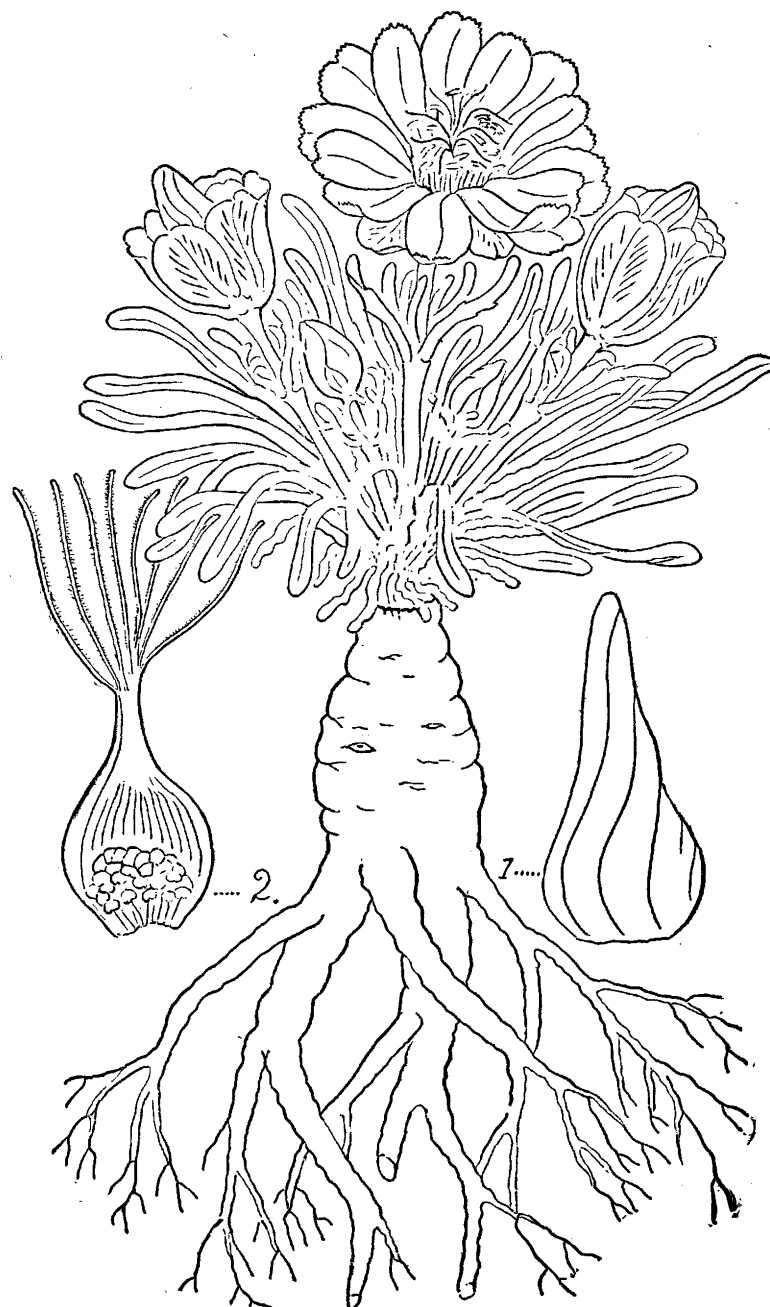
In a prospectively agricultural and horticultural point of view, probably no native plant in our State promises more for the future resources of the country. Vast quantities of these roots are annually dug and consumed by the Indian tribes of North America, under the name of *spatulum*. They abound in concentrated nutriment, as is evident from the fact that a single ounce, or even less, of the dried root, will suffice for a meal to a hunter or traveller, while undergoing the greatest fatigue. Mr. Geyer says: This is the *racine amere* of the Canadian voyageurs; also long known by employes of the Hudson Bay Company.

In a very interesting and erudite article on "The principal plants used for food by man," by Dr. F. Unger, translated from the German, for publication in our Patent Office Reports for eighteen hundred and fifty-nine, will be seen a brief allusion to this plant. See, also, W. J. Hooker's Bot. Miscellany, Vol. I, page 344; also a long account in the London Journal of Bot., Vol. V, page 306. Drs. Torrey & Gray's Flora of North America, treating of the red species, says: "The bark being stripped off, the white inner portion is boiled in water, when it forms a substance similar to *salep*, or boiled *arrowroot*." The dead root, according to Mr. Nuttall, almost dissolves into starch by maceration in cold water. The roots are so tenacious of life, that specimens in Lewis's herbarium, as Pursh records, showing some signs of vegetation, were planted in a garden in Philadelphia, where they grew for a year; and Douglas's specimens, treated in the same way, vegetated for a short time in the garden of the London Horticultural Society.

Some authors consider this plant akin to our common purslane of the gardens, while others think it more nearly allied to the *ficoids*, or ice plants; its position is near the former, or between this and the cactus family, which it resembles in its choice of rocky, and otherwise barren localities.

When we consider how easily the tap-rooted plants are developed in a rich, loose soil, there remains not the slightest doubt of our ability to increase indefinitely the product of this plant. The carrot is a wild native plant, along roadsides almost everywhere, but without a soft tap-root; yet placed in a well cultivated garden for two or three years, we all know the wonderful changes; so also is it with the common parsnip.

Yet, if they escape, and, as we are wont to say, "run wild," their peculiar root disappears, but generously returns again when suitably



RED AND WHITE LEWISIA.—*Lewisia rediviva*; variety, *alba*.

cared for. Specimens of the scarlet *Lewisia*, from the tulare section of California, brought to me by Dr. J. A. Veatch, a few years since, had roots more than half a foot long, and at least an inch in diameter, taken at random. If this plant, under merely natural conditions, yields thus, while the carrot and parsnip, under similar conditions, yield nothing, or next to nothing, is it not a fair presumption that with like care, and, at first, patient culture, it may also be made to yield its thousands of bushels to the acre? These roots, let it be remembered, *are not perishable*. They can also be dried and ground into meal or flour for exportation. The fresh or raw root is slightly pungent and spicy; but scarcely one of our domesticated plants is either palatable or wholesome in its native state; and many are more or less narcotic; and some even most virulent poisons. The enterprising benefactor has here a plant to experiment upon of such wonderfully pertinacious vitality that it is even capable of performing a voyage around the world, in a dry paper, where all humidity has been studiously avoided, and yet growing again as soon as placed in the soil. It is readily multiplied by dividing the crown of the root, or by the seeds, or by pulling and transplanting sprouts, similar to the sweet potatoe; probably the leaves themselves would answer the purpose. In conclusion, it is personally due to say that we have made no effort whatever to develop its capabilities hitherto, but have simply placed the plants in small pots, and neglected all culture, our object being to investigate and sketch their natural forms. With the aid of our outline figure, a detailed description is needless, as it includes the whole plant. The outer, loose, thin bark of the root is red, or dirty white—the inner, snowy white and farinaceous. A beautiful flower, blooming only in clear sunshine, and closing up early in the afternoon.

CALIFORNIA LIVE OAK—(*Quercus agrifolia*—Nees.)

Nature, Paganini-like, will sometimes play upon one string, running the whole quirky gamut, and thirty-seven demi-semi-quavers besides, and still make most wonderful music. This science is foreshadowed and remarkably exemplified in our beautiful live oak, which has almost every conceivable size and form of oak leaf found in the whole book of nature. In our more sportive moments, we have conceived and long cherished the fanciful idea of some day illustrating a burlesque chapter on leaves, taking our text from this live tree. We have a perfect right to make fun of it, for it has fooled and played off on us more than once. Had we fully known his wild, wayward ways of visiting sundry sly nooks, "in specious garb adorned," though as amiable, artless, and domestic as any country lass, I think we would have been less likely to be duped. In the meantime, I suppose we must treat the subject soberly, if we can.

The general appearance of our live oak, park-like and companionable in its natural grouping, is also illusory in the extreme when viewed at a distance, as though one were about to meet the old familiar apple orchard—enchanted ground of other days!—pink showers, Eden odors, and the whole family of pretty, blushing bloomers, magically multiplied—one blooming world! No, no; it's an illusion; they are not there. Nothing but live oak trees, fairy cups and saucers, and teapot acorns, and all that. You just did miss it, that's all.

Along some parts of our coast timber is scarce, and our friends are few; so, whenever we meet them, we give them a right hearty good welcome; a genial smile irradiates our soul when we look one of these live oaks face to face. If we had our way in this wicked world, we

should live, and die, and desire to be buried under their protecting arms. Many a time have we heard the wolfish wind howl, and listened to his dying sigh in the distance, because he could not reach the flock 'neath the firm foliage, while the gentle breeze, only, was astir in the woods, with us. "Woodman, spare that tree!" And while falling from the infirmities of age, let us look well to it, that they shelter betimes those that shall be worthy to stand in their stead. Bear in mind nature's axiom—"Pines in the path of oaks, and oaks in the path of pines"—the divine law of rotation.

As a matter of much scientific interest, we quote the careful and judicious observations of Professor Bolander, in his paper on California Trees, read before the California Academy of Natural Sciences:

"November, A. D. 1865.

"*Q. agrifolia* (Nees, etc.)

"Oakland, banks of Sacramento River, Clear Lake, Russian River Valley, Anderson Valley, and Monterey. Foliage extremely variable. On river banks, and in expositions close to the coast, where it is almost daily enwrapped in fogs, this species exhibits much uniformity. The figure of *Q. oxyadenia* in Sitgreaves' Report, represents this form of it very well. In the valleys of the interior, the shapes of the leaves of one and the same tree is very different; some have entire margins, while others have them pretty deeply toothed; often one side is whole, and the other saw-toothed. Some trees occur of which the young shoots have the leaves 'coarsely sinuate-toothed, or obliquely sinuate-toothed—teeth very sharply acute, with a broad base, cuspidate-awned;' and thus agree with Dr. Kellogg's *Q. morehus*, while the older branches have much smaller entire leaves. In Anderson Valley I saw several trees whose entire foliage agrees admirably with Dr. Kellogg's. Had I not seen that tree on the shore of Borax Lake, exhibiting both forms, I should be inclined to call it a good species. The cups of these trees have the scales long and loosely lapped, and the acorn is almost entirely immersed; but this is also the case with some trees that have a far different foliage. Thus far, I have not been able to find any good, distinctive, reliable characters. There are transitions in all parts, even on the same tree. As the tree has the habit of growing in groups, one might suppose that trees of one group, at least, should show uniformity in botanical characters; but this is not so: just the very extremes may be found in one group. This phenomenon I observed throughout the whole length of Anderson Valley—a distance of eighteen miles. On dry gravelly hillsides in the interior, this tree presents still another form—*Q. wislizeni* (Eng.) The acorns ripen annually, and differ also essentially in shape and size.

"Soil, climate, and exposition, offer in this case no satisfactory explanation for so great a variation in one species. Should it not be attributed to intrinsic peculiarities?"

As a general remark, this may be considered a tree of value for many mechanical purposes, although it varies somewhat in certain localities, or if not, opinions certainly do; some speak of it, as relative to California, A Number 1. Its reputation, it is true, is very equivocal in some sections. Certainly, for firewood, it is regarded as one of the best.

PALE OAK—(*Quercus Douglasii*.—Hook and Arr.)

The pale bloomy green and open foliage distinguishes this tree when seen even from a long distance, and suggests the propriety of the common name of pale oak. The bark of the trunk is also whiter, more finely chinky, even, and regular, than the long acorn or lobe-leaf white oak, (*Q. lobata*), with which it has been strangely enough confounded. It comes out of the ground more like the post oak of the Atlantic slope, (*Q. obtusiloba*), and most strikingly resembles it in the flattish top, with its somewhat horizontal, stiff knee-like spreading branches, fewer in number than any other oaks; the lesser branchlets are thick, short, stiff, and never pendent. Its locality is also different, choosing always poor dry hillsides; or, if in valleys, it is where the yellowish clay indicates inferior soil. When more closely inspected the acorn is found rather short; true, there are some slight variations, but in general the base of the acorn and arcolar mark of the cup are broader, the tip or mucro is more obtuse. The open or more shallow bags of the margin of the leaves, and sometimes almost without any lobes, and the wedge-shaped base, all serve to distinguish it. Further details, without a figure guide, would be too obscure for the general reader; let us hope to see it well illustrated some day. But now, when we turn to look at the quality of the timber, this is so far superior, that there can be no such thing as mistaking it. We find the bark much thinner, the woody substance very hard and tough, close grained, and well adapted for agricultural and many mechanical purposes.

This tree has been mistaken for a variety of *Q. lobata*, as before observed, but we were so well satisfied of its being distinct, that we formerly named it *Q. Ransoni*, (see first volume Proceedings of California Academy of Natural Sciences, page 25.) It has also been described as *Q. Gambellii*, besides two or three others; but the name at our heading has precedence. To our eye this Pacific pale oak seems in all points a perfect representative on this coast of the Atlantic post oak.

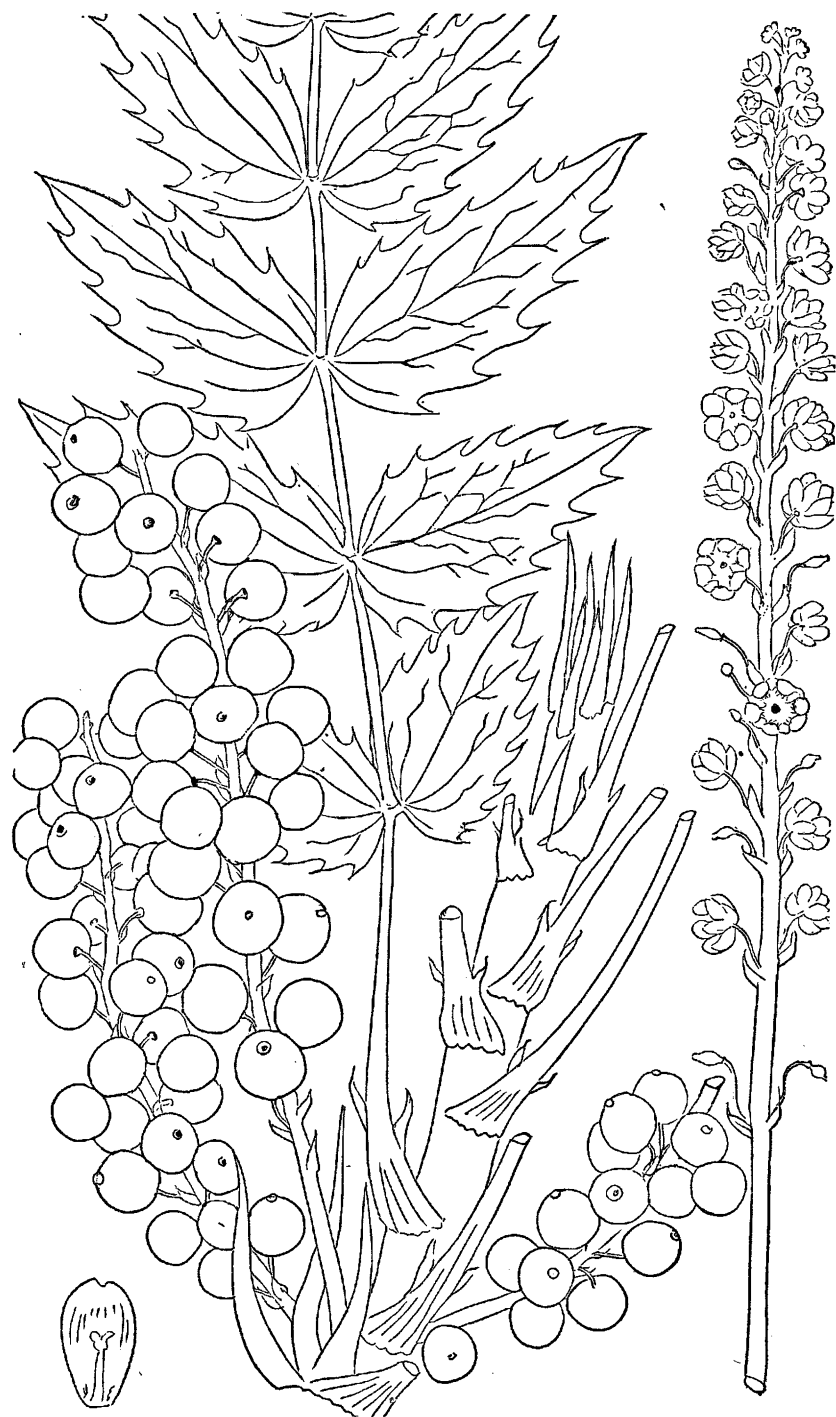
Professor H. N. Bolander, in his notes on this tree, says it is found on "dry easterly hillsides, and valleys, on a poor yellowish clay. Santa Rosa Valley, Clear Lake, Searsville, Anderson Valley, San José Valley. The exposition and soil agree in all these localities."

CALIFORNIA CHINQUAPIN CHESTNUT—(*Castanea chrysophylla*.—Doug.)

This very ornamental ever-green chestnut is found from Monterey to the northern limits of the State, into Oregon. Its variable size, within narrow limits, is quite remarkable. A few miles west of San Francisco, near Point Reyes, and along the coast above, it attains to eighty or one hundred and twenty-five feet in height, and is an exceedingly beautiful tree. The trim trunk is one to two or three feet in diameter, with grayish green bark. The dense wealth of foliage, dark green above and golden yellow beneath, laden with blossoms in autumn, presents as charming contrasts to the woodland scenery of the Pacific as the silvery clouds of hickory and aspen foliage in the rolling breeze that chariots the summer showers of the East. It rarely (or never?) ripens its fruit where our cold summer fogs reach it; but a few miles distant, easterly, on the dry, gravelly hills back of Oakland, we find it both blossoming and fruiting abundantly at the same time, although there only a tiny shrub two or three feet high. Trees in most climates are wont to observe a certain size and symmetry peculiar to each species, and reasonably consistent with general rules and observations; but the vegetable kingdom of California is often most amazing in its sports, from gigantic development to the little lilliputian that hides humbly beneath the rose. We heartily recommend this tree, as well worthy of culture for its native beauty; but the European and Japanese chestnuts will supersede it for purposes of fruit.

BARBERRY, OR FALSE OREGON GRAPE—(*Berberis nervosa*.—Pursh.) (*Ma-honia glumacea*.)

A low sub-shrub, the stem scarcely rising a few inches above the ground, and its base clothed with dry, chaffy, rudimentary leaf scales; found in piney woods along the coast northward into Oregon. The leaves are one to two feet long; the opposite wing-like leaflets rigid, leathery, and strongly nerved; margin sharp, spiny toothed; flower stems simple, six to eight inches long; berries deep blue, in clusters, somewhat resembling frost grapes—hence the misnomer; flavor strongly acid, but eatable, and makes fine pies, tarts, etc.; a refreshing promoter of the



BARBERRY, OR FALSE OREGON GRAPE—(*Berberis nervosa*—Pursh.)
(*Mahonia glumacea*.)



PURSH'S ALDER BUCKTHORN—(*Rhamnus Purshianus*—D. C.)

action of the liver. The bark and roots of all the species of this family enjoy much celebrity in domestic practice as remedies in jaundice, previously macerated in wine.

PURSH'S ALDER BUCKTHORN—(*Rhamnus Purshianus*—D. C.)

We received the specimens of this tree from Dr. Chamberlin, of Eureka, where it is found growing to the height of thirty to forty feet, trim and handsomely formed, and about a foot in diameter. The wood is of a bright, beautiful, yellow color, like boxwood or fustic. The timber is said to be firm, straight grained, and fine for turners and cabinet makers, taking a remarkably smooth polish. The leaves are broadly elliptical, as seen in the Figure Number Five, three to five inches long, and about two inches broad; veins fourteen to sixteen, very prominent, saw-toothed on the margin; flowers, ten to twenty, only a few attaining to maturity; berries, black. Whether the fruit is cathartic, like some of the species, we have yet to learn. We have been promised experiments in regard to its dyeing properties, etc., but have not heard from our correspondent.

OREGON ALDER—(*Alnus Oregona*—Nutt.)

The cognomen *alder* is associated in the public mind as significant of some sort of bush, or synonymous with shrub; but the species of this coast, designated as Oregon alder, is a handsome upright tree, two to four feet in diameter, and forty to eighty feet high. The branching portion—slightly elongated, elliptical—conic in outline—is symmetrical and graceful, maintaining its broad leaves so perfectly horizontal, it affords a remarkably fine shade, notwithstanding its open and airy spray, and in situations suitable to its habit, very desirable on account of its rapid growth. This tree is pretty generally distributed; chiefly throughout Middle and Northern California into Oregon; always growing along the banks of living streams.

Whosoever the Pacific traveller, weary, thirsty, and fainting, seeks water but finds none, deceived by poplars, myrtles, and willows, wont to grow by the brooks, if from afar he sees this pinnacle of his hopes towering above the long, verdant line of various trees that wind along the vale, he hails his hopeless companion in triumph, for lo! the truth-telling tree—"that old alder there never lies!" He ever pitches his tent of green above living waters—symbols of sacred truth; nor can any false, flattering streams lure him above the pure perennial fountain head, where he may forever bathe in everlasting springs. No; nor does death banish him. He visits the springs and streams with the Naiads still. His soft wood, yet strong, close bound fibre, loth to crack in wash-board, bowl, or machine, play there merrily, "all on a washing day." Glorious old alder! associated with charming by-gone memories of the mines, where we sat beneath his shade; yea, slept and dreamed the happy, gilded, and glittering dreams which gold won't buy. Bless the good tree! though we never rest under that shade more in this world, his soft, refreshing voice still vibrates on the harp strings of the heart.

"Like the whispering breeze
That lulls on the leaves and dies among the trees."

We omit the specific, detailed description until we are able to furnish proper illustrations.

A few planks have reached the market, and are highly spoken of by machinists. It cannot be rectilinearly split like redwood, as the woven fibres render it tough, though neither hard nor very durable. It takes a smooth, delicate polish. In times of scarcity the leaves afford good fodder for sheep. The wood makes good gunpowder charcoal. The bark, twigs, and tags are tonic; used in tea, beer, or otherwise; and also used for tanning, dyeing, ointments for eruptions of the skin, sores, etc.

Respectfully submitted,

A. KELLOGG, M. D.

METEOROLOGICAL REPORT.

BY THOMAS M. LOGAN, M. D.

METEOROLOGIST TO THE BOARD OF AGRICULTURE.

In order to afford the agriculturist, as far as practicable, a succinct and accurate idea of the prominent features of the climate of California, the accompanying tables have been prepared. Through this means, in keeping with the spirit of the age, rather than by tedious commentary, we are the better enabled to demonstrate, at a glance, intensities, amounts, and results, with an infinite saving of time, and what is far more desirable, with numerical precision and truth. Meteorology is a very young science—far from being regarded in the light of an exact one—and until observations for a long series of years shall have been made at many stations, we will not be in possession of trustworthy facts on which to ground absolutely correct reasoning about the weather and its changes. Nevertheless, although we cannot, like the astronomer, who deduces the laws under which the celestial bodies move, and applies them with unerring certitude to the prophesying of future events, foretell the everchanging phase of the atmosphere, or prepare an almanac like "Old Moore's," to show what weather is to be expected at any given date, still we may, even now, with the data in hand, obtain a clue to the climate of the region we inhabit, which, we trust, will become more and more available with the increasing experience of every added year.

The tabulated series of thermometric monthly means, with the variations therefrom, at the hours of the three daily observations, give, with their graphic representative, the range of the temperature during the seasons of the year, and when viewed connectedly, show the difference of the climate of the places whence they are derived. They also show the variations of the hours of the day. As observations two P. M., give nearly the greatest temperature, at that time, during the month, and as the mean of the seven A. M., two P. M., and nine P. M. observations gives nearly the mean of the month, so when it is shown that the mean, at two P. M., in a month, or series of months, is $+5^{\circ} 7'$, it expresses the fact that the thermometer during twenty-four hours has a range of $5^{\circ} 7'$, above and below the mean. Many other facts of value may be gathered from these tables, by those familiar with meteorological studies.

In the comparative table, the results of the annual averages of temperature for the whole period observed, together with the range derived

from the mean maxima and mean minima, are given, whilst the difference of the mean temperature of the regions specified are contrasted. To facilitate the comparative estimate, the latitude, longitude, altitude, and mean annual amount of rain, are also inserted. These contrasted summaries show how irregularly isothermal localities in the State are distributed, and also how widely the nearest approximated points are thermally separated from each other. It is also seen that while there are but few places in which the precipitation of aqueous vapor is approximately the same, there are many in which the difference is remarkably striking. These anomalies of temperature and rain distribution, while putting to fault the general law that in temperate latitudes the atmospheric temperature is reduced one degree for every three hundred and thirty-three feet of elevation above the sea, and that the quantity of rain diminishes in advancing from the equator to the poles, can by no means be construed into any manifestation of uniformity or correspondence between the ranges of temperature and quantities of rain at different elevations. As is well known, the proper adaptation of agricultural operations to the seasons—the periodical rains—contributes more to the success of the farmer in California than any other, we might say, every other circumstance. For this reason the rain tables are particularly worthy the study of the natural economist. They are arranged according to the seasons, commencing with September and ending with August. In them will be found the quantity of rain that falls in each month, the total for each year, and the mean monthly and annual supply.

Our climate is thus seen to have seven months in which it always rains more or less, viz: From November to May, inclusive, with only one single exception; and five in which it seldom rains, and then for the most part very lightly. June, July, and August are the driest as well as the hottest months. The heavy rain in July, eighteen hundred and sixty, when over half an inch fell at Sacramento, and the third of an inch on the same day at San Francisco, is a rare exception to the general rule. September and October may be regarded as intermediate between the dry and hot and rainy and cold months. In September, eighteen hundred and fifty-one, one inch of rain fell; and the mean monthly rain for the last sixteen years, amounting to .684 inches, shows the tendency in this month to aqueous precipitation. In October, eighteen hundred and fifty-eight, three inches fell, and the mean monthly rain is about half an inch. December furnishes more than any other month; January next; then February, March, November, April, and May, in the order named. The rain of September, eighteen hundred and fifty-one, and July, eighteen hundred and sixty, present the greatest deviation from the rule. The greatest amount of water that ever fell in any one month was in January, eighteen hundred and sixty-two, and the next greatest in December, eighteen hundred and fifty-two. One half of the supply for the season falls before the last of January, and the other half after that date. There is generally an interim of dry weather, between these dates, of four to eight weeks' duration. The spring rains are quite as constant as those of the previous period, observing generally the same tendency. If they fall sparingly in the earlier half of the season, they will continue to do so in the latter half. From these results it is evident that, to secure good crops, the seed must be sown at such time and the ground must be prepared in such manner as to secure the full benefit of such rains. This is the view taken and the point insisted upon in the meteorological report published in the transactions of this society in eighteen hundred and sixty-three, and time only strengthens the posi-

tion. With scarcely an exception in the last sixteen years, as shown by our tables, the ground has received a sufficiency of moisture to germinate the seed and bring forward the grain during the earlier rains. At this earlier period the ground is still warm, and the weather is as favorable for the rapid growth of both top and roots of the young grain as in the spring months. With a just regard for these facts, there is no reason why the rains, even when deficient, cannot be made conducive to the interests of the farmer, provided the ground be put, in due season, in a condition most favorable for receiving and retaining moisture. To enforce the cogency of this reasoning, we have only to turn to our statistics. In the rain table for Sacramento we find that the mean monthly rain for September, October, and November sums up, in the aggregate, to two inches and six hundred and ninety-five thousandths of an inch—an amount few persons have any definite idea of, and the extent of which would astonish any agriculturist who should attempt to distribute the same artificially. Let us see what it is. An English acre consists of six million two hundred and seventy-two thousand six hundred and forty square inches, and an inch deep of rain on an acre yields six million two hundred and seventy-two thousand six hundred and forty cubic inches of water, which, at two hundred and seventy-seven thousand two hundred and seventy-four cubic inches to the gallon, makes twenty-two thousand six hundred and twenty-two and five tenths gallons; and as a gallon of distilled water weighs ten pounds, the rainfall on an acre is two hundred and twenty-six thousand two hundred and twenty-five pounds, avoirdupois. But two thousand two hundred and forty pounds are a ton, and consequently an inch deep of rain weighs one hundred thousand nine hundred and ninety-three tons, or nearly one hundred and one tons per acre. For the one hundredth part of an inch, a ton of water falls per acre. Compared with what nature thus bountifully supplies, irrigation sinks into insignificance.

THERMOMETRIC MONTHLY MEANS AT SACRAMENTO, WITH THE VARIATIONS THEREFROM, DURING TEN YEARS.

MONTHS.	7 A. M.	2 P. M.	9 P. M.	MEAN.	REMARKS.
	°	°	°	°	
January.....	-4.01	+3.83	+0.18	46.59	These results are obtained from observations made from 1855 to 1864, inclusive.
February.....	-5.34	+4.91	+0.29	50.92	
March.....	-5.13	+5.24	-0.12	55.07	
April.....	-5.12	+5.82	-0.69	59.51	
May.....	-4.52	+6.26	-1.73	63.69	
June.....	-5.37	+7.25	-1.82	69.97	
July.....	-4.99	+7.77	-2.68	72.94	
August.....	-5.51	+7.91	-1.72	71.43	
September....	-7.06	+7.93	-0.77	68.62	
October.....	-7.08	+7.48	-0.32	62.00	
November....	-5.87	+5.75	+0.19	53.05	
December.....	-3.77	+3.81	-0.04	46.86	
Sum.....	63.77	73.96	10.55	720.68	
Mean.....	-5.31	+6.16	-0.88	60.06	

THERMOMETRIC MONTHLY MEANS AT SAN FRANCISCO, WITH THE VARIATIONS THEREFROM, DURING NINE YEARS.

MONTHS.	7 A. M.	2 P. M.	9 P. M.	MEAN.	REMARKS.
	°	°	°	°	
January.....	-3.2	+3.7	-0.5	49.9	The temperature during July and August, at San Francisco, is abnormally low, on account of the fogs which prevail during these months.
February.....	-3.8	+5.2	-1.4	52.1	
March.....	-3.9	+5.9	-2.1	54.0	
April.....	-3.2	+6.4	-3.1	55.8	
May.....	-2.6	+6.4	-3.8	57.0	
June.....	-2.7	+6.9	-4.3	59.0	
July.....	-2.8	+6.7	-3.9	58.8	
August.....	-3.3	+7.1	-3.8	59.3	
September....	-3.5	+7.0	-3.4	61.1	
October.....	-4.0	+6.3	-2.4	59.5	
November.....	-3.4	+4.7	-1.2	54.8	
December.....	-2.8	+3.5	-0.7	50.2	
Sum.....	39.6	69.6	30.0	670.8	
Mean.....	-3.3	+5.8	-2.5	55.9	

THERMOMETRIC MONTHLY MEANS AT SAN DIEGO, WITH THE VARIATIONS THEREFROM, DURING ONE YEAR.

MONTHS.	7 A. M.	2 P. M.	9 P. M.	MEAN.	REMARKS.
	°	°	°	°	
January.....	-6.4	+7.1	-0.8	50.6	The mean for March and April seems erratic.
February.....	-5.7	+7.0	-0.3	53.3	
March.....	-4.2	+7.1	-2.9	58.3	
April.....	-3.3	+5.5	-3.1	56.0	
May.....	-1.4	+4.7	-3.3	60.2	
June.....	-2.2	+5.3	-3.0	65.0	
July.....	-2.1	+5.5	-3.3	67.6	
August.....	-1.5	+4.7	-3.3	66.5	
September...	-2.3	+5.3	-3.1	65.0	
October.....	-2.2	+4.9	-2.6	63.9	
November....	-4.0	+6.1	-2.0	58.2	
December.....	-6.5	+8.4	-2.2	53.3	
Sum.....	41.8	71.8	29.9	717.9	
Mean.....	-3.5	+6.0	-2.5	59.8	

THERMOMETRIC MONTHLY MEANS AT ASTORIA, WITH THE VARIATIONS THERE-
FROM, DURING EIGHTEEN MONTHS.

MONTHS.	7 A. M.	2 P. M.	9 P. M.	MEAN.	REMARKS.
January	+1.5	-1.3	-0.3	41.3	These results are obtained from observations made from July, 1859, to Decemb'r, 1860. The effect of the cold sea wind at midday is well shown.
February	+2.2	-2.9	+0.6	43.3	
March	+3.9	-4.4	+0.5	45.3	
April	+2.4	-4.0	+1.5	46.8	
May	+2.4	-3.6	+1.1	51.7	
June	+1.9	-3.3	+1.5	56.5	
July	+2.1	-3.5	+1.4	59.2	
August	+2.4	-3.9	+1.5	61.6	
September	+2.7	-3.8	+1.2	58.9	
October	+2.6	-3.3	+0.8	53.7	
November	+1.9	-2.4	+0.5	44.3	
December	+1.9	-2.1	+0.2	39.5	
Sum	27.9	38.5	+10.5	60.21	
Mean	+2.3	-3.2	+0.9	50.2	

COMPARATIVE TABLE OF METEOROLOGICAL STATIONS IN THE PACIFIC STATES.

STATIONS.	TEMPERATURE.				Length of period observed	Longitude	Latitude	Altitude above the sea, in feet	Rain and snow, in inches	AUTHORITY AND REMARKS.
	Mean	Range	Coldest mean day.	Hottest mean day.						
Fort Yuma	74.00	36	56	92	6 years.	114.36	32.43	120	3.24	Army Met. Reg., 5 years, partially.
San Diego	62.00	22	52	74	7 "	117.14	32.42	150	10.43	Army Met. Reg., 3 years, partially.
Monterey	55.00	09	50	59	6 "	121.52	36.36	140	12.20	Army Met. Reg., 4 years, partially.
Fort Miller	66.00	43	47	90	5 "	119.40	37.00	402	24.51	Army Met. Reg., 4 years, partially.
San Francisco	55.90	39	39	78	9 "	122.27	37.48	22	22.09	Williamson, and W. O. Ayres, M. D.
Benicia	59.12	36	44	80	8 "	120.14	38.08	183	22.86	W. W. Hays, Surgeon U. S. Army.
Stockton	62.00	16	56	72	4 "	121.14	37.37	35	15.10	R. K. Reid, Physician to Asylum.
Sacramento	60.06	62	32	94	12 "	121.29	38.31	54	18.23	Thos. M. Logan, M. D.
Marysville	63.32	52	38	90	1 "	121.42	39.12	76	.....	W. C. Balcher, 1858.
Fort Reading	62.09	39	44	83	4 "	122.05	40.31	674	29.02	Army Met. Reg., 2 years, partially.
Aurora	52.00	62	20	82	1 "	119.00	38.19	7,463	.....	Major Williamson, U. S. Army.
Hope Valley	40.00	40	11	61	4 mos.	119.54	38.47	7,088	.....	Major Williamson, U. S. Army.
Strawberry Valley	51.00	35	24	69	3 "	120.07	38.49	5,710	.....	Major Williamson, U. S. Army.
Fort Jones	51.40	40	31	71	3 years.	122.52	41.36	2,570	16.77	Army Met. Reg., 2 years, partially.
Astoria	50.20	23	39	62	18 mos.	123.48	46.11	50	86.35	Blodgett and Williamson.
Fort Orford	53.62	15	46	61	4 years.	124.29	42.44	50	71.63	Army Meteorological Reg., partially.
Red Dog, (Nevada)	55.75	27	45	72	3 "	120.47	39.18	2,900	64.00	W. A. Begoli, 1862, 1863, 1864.
Nevada .....	.....	.....	.....	.....	1 "	120.52	39.18	2,630	.....	J. McCoy, County Assessor.

RAIN TABLE FOR SACRAMENTO.

Arranged according to the Seasons, showing the amount in inches of each month during sixteen and a part of seventeen years; also the mean quantity for every month, and the mean annual amount of rain.

MONTHS.	'40-'50	'50-'51	'51-'52	'52-'53	'53-'54	'54-'55	'55-'56	'56-'57	'57-'58	'58-'59	'59-'60	'60-'61	'61-'62	'62-'63	'63-'64	'64-'65	'65-'66	MEAN.
September	0.250	0.000	1.000	0.000	0.003	sp'kle	sp'kle	sp'kle	0.000	sp'kle	0.025	0.063	0.000	0.000	0.003	0.004	0.080	0.084
October	1.500	0.000	0.130	0.000	0.005	1.010	0.000	0.195	0.655	3.010	0.000	0.914	sp'kle	0.355	0.000	0.120	0.480	0.496
November	2.250	sp'kle	2.140	6.000	1.500	0.650	0.750	0.651	2.406	0.147	6.485	0.131	2.170	0.005	1.490	6.718	2.427	2.115
December	12.500	sp'kle	7.070	13.410	1.540	1.150	2.000	2.396	6.632	4.339	1.894	4.292	8.637	2.327	1.815	7.867	.....	4.612
January	4.500	0.650	0.330	3.000	3.250	2.670	4.919	1.375	2.444	0.964	2.310	2.608	15.036	1.733	1.077	4.776	.....	3.247
February	0.500	0.350	0.120	2.000	8.500	3.460	0.692	4.301	2.461	3.906	0.931	2.920	4.250	2.751	0.186	0.712	.....	2.409
March	10.000	1.880	6.400	7.000	3.250	4.200	1.403	0.675	2.878	1.637	5.110	3.320	2.900	2.360	1.303	0.481	.....	3.418
April	4.250	1.140	0.190	3.500	1.500	4.320	2.132	sp'kle	1.274	0.981	2.874	0.475	0.821	1.693	1.080	1.370	.....	1.721
May	0.250	0.690	0.300	1.450	0.210	1.150	1.841	sp'kle	0.203	1.037	2.491	0.590	1.308	0.355	0.742	0.460	.....	0.948
June	0.000	0.000	0.000	0.001	0.310	0.010	0.033	0.350	0.098	0.000	0.017	0.135	0.011	0.000	0.087	0.000	.....	0.065
July	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.030	0.549	0.000	0.000	0.000	0.000	0.004	.....	0.036
August	0.000	0.000	0.000	0.000	sp'kle	0.000	0.000	sp'kle	sp'kle	0.000	0.000	0.000	0.006	0.000	0.085	0.000	.....	0.005
Total	36.000	4.730	17.980	36.362	20.068	18.620	13.770	10.443	14.991	16.061	22.626	15.548	35.549	11.579	7.868	22.514	.....	19.056

ASSOCIATION OF MINERS AND MILL MEN IN CALIFORNIA AND NEVADA.

BY DR. OXLAND,

METALLURGIST TO THE BOARD.

When the silver mines of Washoe were first started, the peculiar circumstances of the locations rendered it necessary to employ other than the ordinary metallurgical processes for the extraction of the silver. Many mills were started in entire ignorance of what had been done elsewhere, and even the best informed operators had to acquire experience in the peculiar qualities of the ores. Considering the very great disadvantages labored under, really wonderful results have been obtained. The most experienced metallurgist now visiting the mills of Washoe may find that the pan process is capable of producing results far exceeding, in a practical point of view, what he could have expected; but there still remains great room for improvement.

The comparative values of the patio, the Freyberg, the smelting, and the pan processes, are undetermined, because few of the superintendents or managers of mills understand the nature of the processes adopted by them. They often deceive themselves as to the results of their workings, sometimes rejecting advantageous offers of ores for custom work, at other times laying hold of with avidity other ores which work greatly to their disadvantage. The assay value of the ores is rarely known, and at least one mill superintendent may be found gravely asserting at one time that his superior skill has been eliminating one hundred and fifty per cent of the assay value; and when the result of assays made were in opposition to his theory, then declaring his utter want of faith in assaying.

The most common practice is, in ascertaining the value of ores, simply to depend upon the reported results of competing mills, and to accept the terms offered by mines, which are certain to be at a minimum of profit to the miller, if indeed there be any at all, at times when competition for ores is brisk. Very few mill men know how or take the trouble to sample their ores, or how to arrive at definite, clear, working results, with full particulars showing the assay value of the ore, the bullion pro-

ANNUAL ADDRESS

DELIVERED BEFORE

THE STATE AGRICULTURAL SOCIETY,

At Sacramento, September 19th, 1865,

By DR. JOHN F. MORSE.

LADIES AND GENTLEMEN:—Thirteen years ago we received and accepted an invitation from Colonel Warren to deliver an address at the first Agricultural Fair ever held in the State of California. The fair was an exceedingly interesting and successful one. The audience before whom the address was delivered was very large, and if they were not gratified with the production, they had the politeness to make the speaker think so, and speakers never question the sincerity of applause. On that occasion we attempted to exhibit the comprehensive and too imperfectly understood power of agriculture, its capacity to cultivate, to receive and appreciate collateral aid, its fascinating and gigantic relations to the development and support of national and individual interests. This course of thought was suggested by the first products of the science in a new and wonderful field of labor. We then regarded agriculture as the essential foundation of prosperity and good government, the richest tributary of commerce, and always the most perfect criterion by which to estimate the probable tenure of the nation—the honesty, the virtue, and contentment of the people.

The study and observations of the thirteen intervening years have served only to confirm these convictions, and to reveal the husbandry of America as a tried and sublimated source of patriotism, of wealth, of life and hope to a liberty-loving Government.

We will not, however, attempt on this occasion to elaborate an address upon the distinctive characteristics of agriculture. Men more competent, who have preceded, have done this, and those who follow will sufficiently often imitate their examples. Age, which brings infirmities, acquires caution, and it would seem almost an act of temerity to talk with flippancy or boldness upon such a subject and in such a place.

Nothing can be more sublime and wonderful than the voices of nature; nothing more grand and glorious than the eloquence of art! In the first, we recognize the language of God, which in tone, in emphasis, in dialect, is infinite and universal; in its teachings, simple; in its discipline, kind and unerring. In the last, we have the utterance of man; limited in resource, yet marvellous in achievement; timid and doubtful in labor, yet heroic and wonderful in expression.

And they are all here in accumulative representation of a glorious husbandry and an inspiring harvest. Thousands of tongues are speaking to us through the fascinating and mystic oracles of a living, eloquent, promising agriculture. At this fair we see and hear the orators of our domestic zoology; our implements of toil and economic industry; our horticulture; our cereals; our fruits and flowers; and the more magnetic voices that have been taught to articulate the language and sentiments of the farmer's home.

The agriculture of California does not need elaboration at our hands. It cannot be overlooked—it cannot be forgotten—it is too wonderfully recurrent and progressive. The claims which it institutes—the marvels which it is annually demonstrating, are much more accurately estimated by the exhibitors and committeemen, and by them placed in the undying annals of the State and nation. It is for the officers and committeemen of this society to tell the world the scientific and truthful stories of our arable lands—our soils and products—our minerals and metals—our seasons—our meteorology, and our natural history. Upon the general platform of agricultural science, with its infinity of relations to the various departments of human interests, what can be more interesting than a fleeting contemplation of the general signs of progress in the midst of which we are living. To do this with advantage we must consult the lessons of comparison. It is contrast which defines the boundaries of superiority, and portrays the character and quality of progress. The most powerful logic is that which acquires its strength from these sources of illustration and conviction. Apt comparison and striking contrast are the instincts of that reason which germinates and fertilizes ambition—which excites and gratifies pride—which impels to that emulation that fixes the status of men and nations, of science and art, of literature and civilization. From the ploughboy to the subsoiler of metaphysics, the sustaining power of the individual, the mystic monitor of the soul, arises from the logic of comparison and the deductions of contrast.

To us the richest and most thrilling field of contrast is unfolded to contemplation. No race of men, no nation of earth, no people of the globe, ever enjoyed such lessons of comparison as those which are forever wooing us into processes of retroflection and daring us to the exploits of conjecture. Yet so completely are we absorbed with the contacts and voices of the passing present—so difficult is it to keep up with the new and electric tides of human life—so hard do we find it to divert an hour from the high pressure steam-impelled system of labor and necessity of the present day, that we can scarcely remember the conditions of yesterday, or to do more than glance at the probabilities of to-morrow.

But that we may not forget the antecedents of our own State, let us look at some of the incidents and peculiarities of eighteen years ago. They are certainly very interesting and very demonstrative of progress; and if they were not exhumed from the columns of newspapers—popular sources of truth—one could not believe them, though risen from the dead. In the Odd Fellows' Library of San Francisco, which is unsurpassed in the zeal with which it gathers up every fragment of written or printed

history of this coast, we have spent many an hour of wrapt enjoyment looking over the curious and mystic records which have been made by the changes and mutations of Time. Among these quaint story-tellers of the past, the most interesting one, perhaps, for our purpose, is the *California Star*, at the head of which is the following:

"A Weekly Journal, devoted to the Liberties and Interests of the People of California. Published by Samuel Brannan, and edited by E. P. Jones, and subsequently by E. C. Kemble."

On the twenty-fourth of April, eighteen hundred and forty-seven, this paper luxuriates in the latest intelligence from the United States. This intelligence consists of extracts from the *New York Tribune* of the fifth of November, eighteen hundred and forty-six. Five, six, and seven months were required for news to travel from one side of the continent to the other. Complete ox-team time across the Plains, little better than a sailing tub passage "round the Horn," and just about a respectable bungo voyage from Panama. These were the news facilities enjoyed by the pioneers of California less than eighteen years ago. Yet you must not suppose the irrepressible, omnipresent Yankee was not here. Oh, no! Brother Jonathan supplied the ethnological material for about two-thirds of the white population of San Francisco. And if a specific and conclusive fact be necessary to demonstrate his presence and fix your convictions, we will give it to you from the advertising columns of the *California Star*:

On the sixteenth of April, eighteen hundred and forty-seven, "B. R. Buckelew respectfully informs the citizens of California that he has located permanently in the Town of San Francisco, for the purpose of pursuing his profession. Watches, clocks, jewelry, and all other fine metallic work, repaired in the best manner, and on terms proportionately with general prices in California. Business intrusted through a friend will be attended to the same as with the person proper. Watch glasses and keys fitted. *Cash invariably required, except otherwise previously understood.*"

Nobody could entertain a doubt as to the identity of that advertisement. It is a genuine type expression of the nervo-sanguine-pushing-conceited-irresistible-ornate-money-making-dare-devil Jonathan. He had started out, without rudder or compass, upon the wild waves of adventure, and they had landed him *sans ceremonie* in the Town of San Francisco. There had been no huge placards posted upon adobe walls, declaring with mystic uncertainty that B. R. B. was coming! Yet he was here, and so full of the inspiration of business that his own personal safety obliged him to advertise. He therefore announced through the columns of the *Star* that he had permanently located in the Town of San Francisco for the purpose of pursuing his profession. He is above deception, and that no one should take him for a minister, doctor, or lawyer, he says his professional business is the repairing of watches, clocks, jewelry, and other fine metallic work, and the fitting of keys and watch glasses. Mr. Buckelew's advertisement does not state where he was born, but it would be pretty safe to conjecture that he originated in Providence, Rhode Island, or Jericho, Vermont. But for the last clause of this advertisement, it would appear as the embodiment and expression of the most attractive and unmitigated complacency. "*Cash invariably required, except otherwise previously understood,*" especially with the first three words italicised, is harsh, and less ornamental than useful.

That qualification, however, is not unworthy the serious consideration of the farmers and physicians of the present day. In this advertisement of Mr. Buckelew there is a great deal of pride, poetry, and rhetoric. But just see what old habits and the laws of equivalents and disorder give on an adjoining page:

"NOTICE.—My wife, Hetty C. Brown, having left my bed and board, the subscriber would inform the public that he will not be accountable for any debts of her contracting from and after this date.
"J. H. BROWN."

The *Star* doesn't say what became of Hetty or Mr. Brown, but it's fair to infer that bed and board which could be so easily sacrificed were very common fare, and that Brown's credit would have proved a meagre source of sustenance to the runaway.

In this same issue of the *Star*, the editor, E. C. Kemble, perpetrates an apostrophe to that meteorological certainty, the wind of San Francisco, which is so cleverly truthful that it will bear repeating:

"Ever blowing, colder growing, sweeping madly through the town,
Never ceasing, ever teasing, never pleasing, never down,
Day and night, dark or light,
Signs a-flying, clapboards sighing—
Groaning, moaning, whistling shrill,
Shrieking wild, and never still."

"In September, in November, or December, ever so;
E'en in August will the raw gust, flying fine dust, roughly blow.
Doors are slamming, gates are banging,
Shingles shivering, casements quivering—
Roaring, pouring, madly yelling,
Tales of storm or shipwreck telling."

"In our bay, too, vessels lay to, finding no shelter from the blast;
Whitcaps clashing, bright spray splashing, light foam flashing—dashing past,
Yards are creaking, blocks a-squeaking,
Rudder rattling, ropes are clattering,
Lugging, tugging at the anchor,
Groaning spars and restless spanker."

"Now the sun gleams, bright the day seems—hark! he comes—is heard the roar,
Haste to dwelling, dread impelling, heap the fire, close the door.
Onward coming, humming, drumming,
Groaning, moaning, sighing, crying,
Shrieking, squeaking—(reader, 't is so)
Thus bloweth the wind at—San Francisco."

But this *California Star* contains much more inviting and profitable food for reflection and contrast. On the twenty-eighth of April, eighteen hundred and forty-seven, the *Star* publishes a statistical account of San Francisco—a sort of city directory, that forms an amazing contrast with "Langley's Directory" of eighteen hundred and sixty-five. The author of this statement describes the boundaries of the city, and gives the official survey of Mr. Jasper O'Farrel, dividing and subdividing the city into three classes of lots, to-wit: First—The beach and water lots. Second—The fifty vara lots. Third—The one hundred vara lots. The first class were located by and four fifths of them in the water at high tide. The second are the next adjoining, and the third the outer range. The first class were sixteen and a half varas front and fifty varas deep. A vara is a Spanish yard, and is about thirty-three and a third inches

English measure. About two hundred of these lots were sold in July, eighteen hundred and forty-seven, at prices ranging from fifty dollars to six hundred dollars—one quarter down; one in six, twelve, and eighteen months, the last quarter bearing interest at the rate of ten per cent per annum. The second-class, or fifty vara lots, were fixed at the uniform price of fifteen dollars sixty-two and one half cents, including deed and recording. The third class, or one hundred vara lots, were fixed at twenty-eight dollars sixty-two and one half cents, including the cost of deed and recording.

The following table shows the total number of inhabitants in June, eighteen hundred and forty-seven, as four hundred and fifty-nine. Of these, three hundred and seventy-five were white, two hundred and forty-seven males, and one hundred and twenty-eight females—a dangerous preponderance of masculines, which might have had something to do with the independence and runaway spirit of Hetty Brown. The balance of the four hundred and fifty-nine was made up of: Indians, twenty-six; Sandwich Islanders, thirty-nine; of negroes, nine. More than four fifths of this population were under forty, and more than half between the ages of twenty and forty. Their places of birth were as follows: Born in Canada, five; California, thirty-eight; other Mexican departments, two; Chili, two; Denmark, one; England, twenty-two; France, three; Germany, twenty-seven; Ireland, fourteen; Malta, one; New Holland, one; New Zealand, one; Peru, one; Poland, one; Russia, one; Sandwich Islands, one; Scotland, fourteen; Sweden, one; Switzerland, six; United States, two hundred and twenty-eight; West Indies, one; at sea, four.

What is a most singular circumstance, the entire Mexican or Spanish population was thirty-two. This suggests the contrast and reflections with which we will conclude this address:

Out of the four hundred and fifty-nine, there were two hundred and seventy-three who could read and write, thirteen who could read and not write, and eighty-nine who could neither read nor write; forty-six of this number, however, were between the ages of five and ten years.

The various occupations of these persons are summed up thus: ministers, one; doctors, three; (medicine got ahead of theology in that instance;) lawyers, three; surveyors, two; school teachers, one; (that must have been Pelton;) agriculturists, eleven; bakers, seven; blacksmiths, six; brewers, one; brickmakers, six; butchers, seven; cabinet makers, two; carpenters, twenty-six; cigar makers, one; clerks, thirteen; coopers, three; gardeners, one; grocers, five; gunsmiths, two; hotel keepers, three; laborers, twenty; masons, four; merchants, eleven; miners, one; morocco case makers, one; navigators, inland, six—ocean, one; painters, one; printers, six; saddlers, one; shoemakers, four; silver-smiths, one; tailors, four; tanners, two; watchmakers, one; (that must have been the artistic Buckelew;) weavers, one.

There were at that time, apothecary shops, one; bakeries, three; blacksmith shops, two; cigarmaker shops, one; groceries, seven; gunsmith shops, one; hotels, two; mills, (horse power,) one; mills, (wind power,) one; printing offices, two; shoemaker's shops, one; stores, eight; tailor shops, two; watchmaker's shops, one.

The author of these statistics says: "In conclusion, I cannot suppress a desire to say that San Francisco is destined to become the great emporium of the North Pacific coast. With the advantage of so fine a harbor and the enterprise of so hardy and intelligent a race of pioneers, it can scarcely be otherwise.

"Notwithstanding these conclusions are so obvious, I have heard it asserted that Monterey is destined to outstrip it. That Monterey can never surpass San Francisco, I think the following view will clearly establish; first, San Francisco has a safer and more commodious harbor than Monterey; second, the waters of the bay afford an easy method of communication, and a facile means of transportation between the town and the hundred lateral valleys which surround the bay, and which are destined soon to become the granaries and hives of plenty; third, it also has a ready means of communication by water with the rich and large valleys of the San Joaquin, the Sacramento, and the American Fork, as all of these rivers are tributary to the bay. This, it seems to me, allowing all other things to be equal, would give to San Francisco an insuperable advantage."

In a subsequent issue of the *Star*, we find the following correction:

"In my communication last week on the statistics of San Francisco, I stated that there had been at least twenty houses built in the two months of July and August. I find, on examination, I have unintentionally done great injustice to the spirit of improvement and progress which pervades the place, for instead of there having been at least twenty, there were forty-eight buildings erected within the time spoken of above. In the year previous to the first of April, eighteen hundred and forty-seven, there were erected: shanties, twenty-two; frame buildings, thirty-one; adobe buildings, twenty-six. Total, seventy-nine. Since the first of April, and up to the present time, there have been built, or in process of erection: shanties, twenty; frame buildings, forty-seven; adobe buildings, eleven. Total, seventy-eight. This shows the astonishing increase within the last five months of one hundred per cent."

This is an exceedingly valuable item, to which we will presently refer. We will make one more quotation from these interesting columns, and then proceed to a brief glance of some of the contrasts of time and change. On the eighth of November, eighteen hundred and forty-seven, the Town Council enacted the following ordinance:

"Be it further ordained, that any person killing or maiming the carrion fowls or birds within the limits of this town, shall be fined one dollar for each and every offence, upon conviction thereof."

Another important item which we may make use of in the future.

We have said that "it was contrast which defined the boundaries of superiority and portrayed the character and quality of progress." We have now seen from newspaper authority, and in the record of passing events—there can be no better—what San Francisco was eighteen years ago.

Some of the quotations we have made may have appeared absurd and out of place. But are they really so? Take for example the most grotesque specimen—the runaway and advertisement of caution against Hetty C. Brown. Such an incident was certainly not calculated to promote the development of numerical progress in the Brown department. But you will readily agree with us, that it worked no serious obstruction to the San Francisco branch of this eminently prolific family. By turning to the Brown catalogue of Langley's last Directory of the bay city for eighteen hundred and sixty-four and eighteen hundred and sixty-five, we

find that there are no less than two hundred and nineteen of that name, who are individualized for directory purposes. If we allow every name in the directory to represent five of those who bear the same name, we will have one thousand and ninety-five persons of the Brown family, who, notwithstanding Hetty's dereliction, accumulated in San Francisco in the short space of eighteen years—six hundred and thirty-six more than the entire population of this city when it began to feel that expansive power—that resistless energy which is an inherent and ineradicable element of American citizenship.

From this single family the City of San Francisco has grown in population, in productive power, in commercial and political importance, with a rapidity that sinks into insignificance the effort of two hundred years under the patronage of monarchical Spain. The progress of the city, from the increase of the Browns alone, in the last eighteen years, sustains a respectable relation to the growth of the general towns and cities of the globe. But if a contemplation of the irrepressible Brown family excites surprise and astonishment, who can read without amazement the almost interminable record which has been made by the still more prolific Smiths?

Mr. Langley gives us three hundred and ninety-one directory names of this family. This, by the same representative proportion, would yield an increase of one thousand nine hundred and fifty-five in eighteen years, or one thousand four hundred and ninety-six persons more than the total white population of this city in eighteen hundred and forty-seven.

In eighteen hundred and forty-seven, there was one minister; there are now hundreds. There were then three doctors; there are now two hundred and thirty-eight. There were then three lawyers; there are now three hundred and seventy-one. There were then seven groceries; there are now four hundred and ninety. There were then two carpenter shops; there are now ninety. There were then two hotels, which were probably boarding houses and drinking places; there are now, of hotels we cannot say the number, but there are four hundred and twenty-eight boarding houses, and one thousand six hundred and fifty-four drinking establishments. Of watchmakers and jewelers, the ornate Buckelew had the field; there are now one hundred and seventy-three. And then a beach and water lot, which sold in eighteen hundred and forty-seven for fifty dollars to five hundred dollars, would now bring from five thousand dollars to forty thousand dollars or fifty thousand dollars. A fifty vara lot, which sold then for fifteen dollars and sixty-two and one half cents, would now sell for fifty thousand dollars, or one hundred and fifty thousand dollars. And a one hundred vara lot would now bring from one hundred thousand dollars to four hundred thousand dollars. There were then six inland and one oceanic navigators; and in eighteen hundred and sixty-three the steam tonnage alone entered at San Francisco was one hundred and twenty-six thousand eight hundred and three; and our rivers and inland bays are now alive with steamers, schooners, and sloops; and in addition we have nearly three hundred miles of working railroads. Then the total population of the city was four hundred and fifty-nine; now it is one hundred and twelve thousand seven hundred. Then there were a few shanties, frame buildings, and adobes; now there are fourteen thousand four hundred and forty-three buildings, of which eleven thousand five hundred and thirteen are frame, and two thousand nine hundred and thirty are brick. People do not now build adobes, and the recognition of shanties has become an obsolete idea.

And these are the mighty, incredible, mystic changes that have taken place in eighteen years in the same town in which an ordinance was then enacted to impose a fine of one dollar upon any person who killed or maimed a buzzard in the city limits. How many here ever saw a crow or buzzard in the City of San Francisco? These carrion birds never did and probably never will constitute a feature of that city civilization which is common to the people of the United States. They flee from this form of civilization with as little ceremony as the coyote or grizzly bear. The only flesh eating bird cultivated and acknowledged in the progressive and pioneer movements of our citizens, is the majestic, bold, sun-facing eagle of our country. The buzzard ordinance was the last protective acknowledgment of that civilization to which California has been subjected since its settlement by Spain. But in a town in which there were four hundred and fifty-nine people, the most of whom were irrepressible Jonathans, who had already started two newspapers, and passed an ordinance in favor of erecting a free public schoolhouse, such a relic of lethargic, spiritless reclamation of earth, of agriculture and commerce, could only exist as a monitor of contrast, to show how the sun was certainly going down upon one race, and how it was as certainly rising upon another. We have shown that in eighteen hundred and forty-seven, when California began to feel the superincumbent pressure of energy, of enterprise, and daring, common to the people of the United States, when San Francisco encouraged two newspapers, that there were but thirty-two Spanish and Mexican inhabitants out of four hundred and fifty-nine. What fact of history is more significant and wonderful?

In fifteen hundred and thirty-four, Grijalva, commanding a squadron fitted out by Cortez, discovered and took possession of California. From that period continued efforts were made to extend the discovery by the same authorities, and in the year fifteen hundred and ninety-six, under the patronage of one of the Viceroy's of New Spain, Don Sebastian Viscayno made an effort to permanently settle California. He made an extensive survey of the coast, and regularly established a garrison at Santa Cruz. Three hundred and thirty-one years ago, the country was discovered under the patronage of a man with almost unlimited resources, and by a people who were under the impression that it was the greatest storehouse of gold, of pearls, and precious stones, that could be found in the universe. Discovered, not by a people who had no previous political and commercial relations with the country, but by a Spanish nation, whose neighborhood, contact, and convenient seaports evolved an almost political necessity that it should be occupied, improved, and retained by them. And when, in addition to this, we contemplate the fact that the country was so very accessible; that there were so few losses sustained by maritime disaster during all the efforts made to explore the coast and territory; that the climate was so much more favorable than that characterized by the severe winters of the Atlantic borders; that the natives were comparatively harmless; that then we would not be regarded as unreasonable or illiberal in supposing that three hundred and thirty-one years was time sufficient to present California as an improved and populous possession of Mexico or some other Spanish Government. But we have ample reason for believing that neither the famous Cortez, the ambitious Viceroy's of New or Old Spain, that neither the Jesuitical fraternity of Mexico, the Franciscan friars, nor the Dominican monks, all of whom made efforts to possess and populate this territory, were the agencies through which a country like California was to be speedily or

adequately developed. The evidence for a deduction unfavorable to the Spanish authorities, who made so many efforts to settle and improve the country, is to be found in the results of three hundred and thirty-one years struggle. And although we have barely alluded to the attempt to settle this country, yet enough has been presented to sustain a conclusion most unfavorable to the national or commercial enterprise of the people who discovered and strove to settle one of the richest countries in the world. Suppose we were to institute a comparison between the efforts of the Spaniards to settle, subjugate, and improve California, and the English who attempted the occupancy and development of the United States. In sixteen hundred and seven, eleven years after the attempted settlement of Santa Cruz, the English Government made its first permanent effort to colonize America by settling Jamestown, in Virginia. The vast continent of America was then almost completely in the hands of or claimed by Spanish authorities. England had no contiguous possessions, no particular pretext for the immense territory she was almost grasping; she had less encouragement from climate, and much more troublesome and almost invincible aborigines to contend against, and yet only look at the comparative results of the two settlements—of Santa Cruz under Spanish patronage, and Jamestown by English enterprise. In two hundred and fifty-eight years the one had led to the accumulation of old adobe walls, and the bleached bones of a few thousands of domesticated Indians, as the only remaining indications of the success attained for a season, and as the signs of a national lethargy that has slept away its own possessions.

So much for the Spaniards and Santa Cruz. In two hundred and forty-seven years the English settlement of Jamestown has grown into one of the mightiest nations that figures in the history of the world. From a little village of adventurers, it has expanded itself into a confederation of thirty-six States, each one of which would sustain a respectable nationality among the kingdoms and empires of Europe. From this little nucleus of settlers has sprung up a population of thirty millions of people, whose moral habits, whose social and intellectual claims, whose physical endurance and political reputation, are unsurpassed; whose enterprise has overridden all obstacles to its progress, and whose territorial possessions are nearly ten times as large as Great Britain and France combined; three times as large as the whole of France, Britain, Austria, Prussia, Spain, Portugal, Belgium, Holland, and Denmark, together. Such are the results of the two national efforts referred to—the Santa Cruz and Jamestown settlements. The one sustained by an immense patronage, by geographical contiguity, by climatic advantages, and the feeblest savage resistance. The other, supported by limited resources, by an inextinguishable energy and fearlessness, and antagonized by remoteness from the source of patronage, by the most inhospitable winters, and by powerful and treacherous tribes of Indians. The one, dead and decaying in its own birthplace; the other, in comparative exile, rearing monuments of vitality, enterprise, and glory over its grave.

Such a system of comparison, which is just in facts and observation, affords the easiest and most convincing method of reflection and inference that can be adopted in the consideration of comparative peculiarities, whether national or individual. It holds up the irrefragable signs of the past; and whether they appear as the defaced and disfigured gravestones of perverted or futile enterprises; whether as the crumbling and dingy walls of an abandoned and depopulated country; whether as the historic records of a blighted nation, or circumscribed and finally ruined mission-

ary schemes; or whether they loom up as cherished and towering symbols of national prosperity and grandeur, and as the fadeless annals of a moral and political superiority, still do they afford the only perfect key to the interpretation of national or individual character. And this is the light of interpretation with which we would translate the efforts of Mexican authorities and Spanish individuals to explore, settle, and civilize one of the richest and most valuable territories in the world—Northern and Southern California. And whilst we regret the necessity, yet we cannot avoid the conclusion that Mexico, with great natural advantages and extensive political resources, was totally incompetent to achieve a permanent or even important settlement in the country. That the noble and almost divinely animated missionaries, who resolutely battled their way through accumulated difficulties to a glorious, yet limited success; that these, too, lacked the elements of that enlarged, that expanding, general, elevating, and enduring progress which lights up the pathway of Anglo-Saxon energy and volition. All around San Francisco are the remains of missions established nearly one hundred years ago—San Carmel, San Luis Obispo, Santa Clara, San Juan Baptista, San José, San Fernando, San Antonia de Padua, Mission Dolores, San Buenaventura, Santa Barbara, Mission of Soledad, of La Purissimo Concepcion, of Santa Cruz, of San Miguel, of Santa Inez, and Mission of San Antonio—seventeen missions. These missionary stations are in the very neighborhood of the Golden Gate, and one of them, Mission Dolores, within the city limits, some statistics of which, as late as eighteen hundred and twenty-five, show these capacities: Twenty-eight thousand dollars (merchandise,) sixty thousand head of cattle, one thousand tame horses, fifteen hundred breeding mares, eighty-five stallions, seven hundred mules, one hundred thousand sheep, one thousand hogs, four hundred yoke of oxen, thirty thousand bushels of wheat and barley, and nineteen thousand dollars in specie. And yet how can we believe that, with all these sources of information and power, with such motives for energy, wealth, development, progress; with such opportunity for the establishment, not of missions, but of *empires*—how can we believe that under the operation of such influences there were but thirty-two representatives of Spain and Mexico in San Francisco in eighteen hundred and forty-seven? Nothing can speak louder than such facts; nothing can define with more convincing proof the characteristic force and distinguishing power of two races or nations than such contrasts. In the two newspapers of San Francisco in eighteen hundred and forty-seven; in their projected public school house; in a few men like Samuel Brannan and B. R. Buckelew; and in that spirit of go-it-alone which the independent Hetty C. Brown manifested, there was more of the magazine power of development, more germinating force of progress, more daring, resistless, agitating, upheaving, and exploring enterprise, more national peculiarity, pride, and achievement, than that which sprang from the previous three hundred and thirteen years of effort to discover, settle, and develop California. Such contrasts admit of but one solution. Nothing but a superior national force of character can afford an explanation. No science, no logic can be satisfied with any other conclusion. No record of nature, no proclamation of God, can be written more plainly than are the interpretations of such contrasts of history.

Eighteen years of the citizenship of the United States has effected a million times more in the settlement, the opening and portrayal of the natural resources of California and the northern Pacific coast than all the three hundred and thirteen years of Spanish kings, viceroys, and

missionary societies. We say, the citizenship of the Union! We do not mean mere Anglo-Saxon energy, but the universal citizenship, native and adopted, which, under the influence of our Government, from the stimulus of free and enlightened institutions, becomes a wierd unity of strength in demonstrating the national force to which we have alluded. "Blood will tell," says the sneering aristocracy that makes and supports crowned heads and privileged classes. We accept the maxim. Blood will tell when it receives the oxygen of political freedom, and is circulated for the development of unrestricted brains and muscle.

This astonishing contrast seeks a solution only at the hands of the nation; and the nation, with its eyes fixed upon the God-inspired maxim of every State—"Liberty, Equality, Fraternity"—answers steadily and forever the question in these magic words: "*E Pluribus Unum*." There's an atmosphere in the national liberality and equality that so soon as breathed by the individual, transmutes the alien blood of a German, Frenchman, or Irishman, into the same instrumentality of daring and patriotism and independence which inspired the primal declaration of freedom, and set free and emancipate the furtive genius of American character. Under the influence of this atmosphere there are no born or inherent privileged classes; no obstructed or closed avenues to wealth, to fame, or rank. Every door of industry and department of usefulness is opened at the first tap of energy; and few are the sluggards who can resist the general and genial welcome. The theory of kingcraft is exploded. Born aristocracy and heraldic pedigrees are no longer essential to governments. Because a man has primarily distinguished his industry by felling trees or making coats, does not argue that he cannot wield with surpassing success and grandeur the executive powers of the mightiest nation of earth. Honest and useful labor needs no champions that it has not found in Abraham Lincoln and Andrew Johnson.

Here is the sublime secret of our national greatness and prosperity. From this source springs an agriculture as comprehensive, as substantial, as prolific, as exhaustless as the soil upon which the nation is founded. Not an agriculture owned and dispensed by kings and princes, by dukes and lords, by ruling classes, leased and sub-leased until the poor toiler is reduced to a harvest of husks and a bed of straw; but an agriculture almost as free as air, and as rich as rain and sun, light and energy can make it. There is no government in the world so well adapted to the science and power of agriculture as a republic, and no Government can live, become mighty, and expect to endure, without agricultural abundance. The United States, through the genius of the people, formed a government infinitely calculated to inspire a stupendous husbandry—it sowed the seeds of an unparalleled agriculture, and as a sublime and glorious result, it never rests from the pleasurable labor of harvesting homes. Homes that are the fountains of national strength; homes of hospitality and plenty; homes of loyalty and of deathless attachment; and homes which are, in proportion as they are free and diffused, the best conservators of manly vigor, energy, endurance, intelligence, beauty, honesty, chastity, and virtue. Upon this kind of agriculture, more than any other department of governmental reliance, depends the progress, the power, and endurance of the Federal Union. Free and untrammelled agricultural homes, cultivated and kept in order by the men who own the soil, are the sources of the most indestructible national wealth. And in our country there is but one thing that can militate against this great national desideratum. That is the tendency to a monopoly of soil, the holding of more land than can be properly

managed, and the introduction of lease-ridden estates. Oppressive monopoly in anything is a curse to society and dishonor toward God and man. But if monopoly must exist, let it live anywhere rather than in the husbandry of our country.

There are no monopolists so arrogant, so dictatorial, so dangerous to the peace and perpetuity of the State, as the overgrown, monopolizing, political nabobs of the soil. Moderately large farms, well tilled, constitute the true glory and security of a nation or State. Contiguity of small farms awaken and maintain an emulation in agriculture which converts valleys, hillsides, and prairies into those wonderful garden fields of beauty and plenty that never fail to enrapture the eye and delight the heart of needy and ennobled humanity. This is the kind of agriculture we want in California, from the partial development of which our State has taken a stride in progress in eighteen years unknown to any half-century of previous historical knowledge. This is the agriculture which yields abundance, and from which springs those exertions of genius and of art through which manufactures originate and thrive, and in the joint power of these resources of wealth is generated the most powerful and enduring commerce of the world. The farms and the farmers of California have been a godsend to this coast. What the silent and noiseless sun and seasons have done to eliminate the promises of agriculture, these farmers have, with equal patience and modesty, done to evoke the permanent attachments, to inspire manufactures, and to lay the foundation of that commerce which in one half-century will surpass any interest of national or international intercourse and trade ever recognized by man. But for the agriculture of California we could not have borne the crisis of adversity through which we have been compelled to pass. A three years premium upon our gold, a doubling of the fortunes of those who would return to the East, would have well nigh depopulated the State, but for those permanent and immovable interests which spring from farmer-homes, from the inspiring claims of the soil and agriculture. We will not underrate the mineral and metallic resources of California, but we will say that in comparison to the benefactions which agriculture confers upon a State, they are irregular, unreliable, and capricious. A premium upon the products of the soil, come from whence it may, leaves an equivalent with the producer, whilst a premium upon gold and silver, which is our exclusive circulating medium, we have seen has too often absorbed and removed, not only the product and our currency capital, but the producer also.

God preserve and prosper the farmers of our country! With them abides the true magic of our common prosperity and courage. When the fascinating enchantments of mining are panic stricken with disaster; when manufactures languish, and dependent operatives are gloomily contemplating starvation; when commerce is swept from the sea through the merciless touch of maritime war; when the licentiousness of city life and cormorant fashions have well nigh consumed the honesty and energy of the business classes; when the relaxations of religion and soul of society, communicated anemia and weakness to the body and soul of society, requiring the strong tonic reassurance of nature's own best remedy; then with one accord do the invalids of interest turn with filial instinct to the paternal refuge and protection of replenishing agriculture.

And behold the sovereign magic of the view! The valleys are seen teeming with waving fields of golden-headed grain; the hills are alive

with exhaustless herds of gamboling stock, or festooned with vigorous grape-bearing vines; the orchards are bending with luscious fruits; the gardens are plethoric of vegetables, and berries, and autumn flowers, and everywhere is seen the placid, sweet smile of mother earth, and the hearty, inspiring promises of the toilworn farmer. Again, say we, God bless and protect the farmers of our country! To them give we present praise. To them will we extend congratulations and acknowledgments when our State, and Oregon, and Washington, and Nevada, and Utah, have been thoroughly vivified and arterialized with railroads. To them will we give congratulations and praise when the snort of the same iron horse is heard in the streets of San Francisco, the Capital of the State, through the valleys of California, on the wild summits of the Sierras, across the arid plains, at Great Salt Lake, at Denver, Fort Leavenworth, St. Louis, Boston, and New York.

AGRICULTURAL COLLEGE.

ADDRESS OF HON. A. A. SARGENT,

DELIVERED BEFORE THE STATE AGRICULTURAL SOCIETY, SEPTEMBER 21, 1865.

LADIES AND GENTLEMEN:—I have been requested by the officers of the State Agricultural Society to address you upon the education of the industrial classes, with particular reference to the means by which the legislation of Congress granting land for an agricultural college may be made available to the State. It occurs to me that a report would be a more convenient form in which to present suggestions upon a subject of this character; but I comply with their request. The advantages of a thorough education for those who discharge the practical duties of life, who give motive power to all industries, and thereby create the prosperity and enhance the security of the commonwealth, need scarcely be discussed. They are to a considerable extent secured in this country by a broad diffusion of elementary knowledge and better facilities for the scientific training of youth. The lights that once shone only on the apex of the social structure have gradually gleamed downward, relieving the shadows at the base. The result has been stimulated invention, higher virtue and self-respect diffused through society, and intelligent patriotism, which has given strength to the national arm and steadiness to the national will during the desolating struggle through which we have passed.

The spot where we are assembled is one of no ordinary interest. Here, within the memory of nearly all of us, a busy city has grown up. A few years ago the occasional visitant found, as the only evidence of civilization, the little fort whose ruins are still in the outskirts of this city, where Sutter traded with the vanishing Indian tribes. In this city, where Sutter traded with the vanishing Indian tribes. In this great inland valley, hemmed in by the Coast Range and the Sierra Nevadas, were widely separated, here and there, the rude homesteads of pioneers. Now, the Sacramento and San Joaquin roll their waters through hundreds of miles of cultivated fields; and thriving towns and cities have started into existence on their banks. Central among them all, because the centre of the creative railroad interest, and the principal inlet of the trade that flows into the mountain communities, and over the mountains to the empire beyond, is this city which now spreads out

iron arms in three directions to embrace the country, and chiefly aspires to the honor of urging onward that great enterprise which shall bind the continent in everlasting bonds of fraternity, and give new direction to the exchanges and industries of the world. Sixteen years have witnessed greater changes on the margin of yonder river than the world can elsewhere show in the same space of time. What may we not expect of sixteen years to come! By that time one or two Pacific railroads will have broken through the inclosing mountains, and their impetuous tides of travel and business will ebb and flow through this city. Then, perhaps, Oregon will be united to you by the iron bonds of a railway, two links of which are already forged. The railroad that will skirt the bays, and the steamers that will crowd the Sacramento, will connect you more intimately with the great Queen City of the Pacific, then doubled or trebled in population and wealth, and fairly started on that great career of prosperity that will build up a city within the Golden Gate to rival the proudest capitals of trade the world can boast.

Some observers complain that the population of this State decreases, and seek for remedies in financial experiments, or by disturbing the tenures to the vast mining property of the coast. But it is apparent that our people have fed the growing numbers of other mining States and Territories; that Nevada was born of California; that Washington, Idaho, Montana, and Arizona, deplete our population; that Mexico has attracted many of the most adventurous of our people. This drain upon our population has been caused by inducements held out by the undoubted richness of those regions, and by the fact that a few dry winters have injured our miners and agriculturists. But our State is prosperous, and its future is assured. Exhaustless veins, rich in gold, are at our feet, almost untouched by the miner; vast placer fields still pay tribute to labor; and our fertile valleys, wealthy of golden grain, and blushing with luscious fruits, promise ample reward to skilled and patient enterprise. The great remedies for our depleting population are increased manufacturing enterprises, in which our State has already valuable interests, and the completion of the railroad that will bring to us a strong tide of emigration from the East, and pour it out along the line of the road into the territories that now wait, like ourselves, for more laborers to develop their resources—an emigration now deterred by a sickly Isthmus trip, or discouraged by the hundreds of miles of weary journeyings over the plains. The communities in the interior of the continent, which we have created and fed by our very life-blood, will make rich markets for our products, and return therefor their abundant silver and gold. We are yet at the dawn of our greatness as a State, and I read no ominous signs in this our morning sky.

Yet, great as is our need of more population, its influx would be undesirable if it merely swelled the too large class of non-producers of this State—its force of unemployed labor. Hundreds of men hang about our towns, engaged in no useful employment, listless and drifting year after year. With abundant opportunities for labor, they seem to lack the disposition or energy to better their condition or be of use to the State. If they could be drafted into the army of workers it would be better for them and the community.

To guard against accessions to this class, more correct information of the real condition of things on this coast should be disseminated in the East. We have painted to the imagination of the world the riches of our domain in such glowing colors that many who came here on our representations expected to pick up gold on the hillsides, and to make

speedy fortunes without capital or labor. Disappointment waits on all such. The day of rich surface diggings has passed. The miner must now toil early and late, and he is considered fortunate if each ounce of gold does not cost much of its value in extracting it. He must penetrate the centre of the mountains with his rock tunnels, and sink shafts deep beneath the surface, to find the yellow deposit. Improved machinery and laborious application are essential to his success, with constant hazard of failure. Prosperity thus toil-earned is better for individuals and the community than the flush times of our early experience. Money then came easily, and was spent freely. Recklessness in expenditures and too general dissipation prevailed. Gilded gambling bells were scattered through all our cities and mining camps, affording facilities for casting away the prodigal harvest gathered from thousands of claims where the gold glittered among the grass roots. Such a state of things could not but be corrupting to the virtue and manhood of individuals and disastrous to society. Now, mining has resolved itself into a business which generally yields fair returns only to economical and intelligent enterprise. The farmer's skill and labor are rewarded by ample returns; but Nature, here as elsewhere, needs the inducement of honest industry to yield her favors.

Those who come here under such delusions soon become discouraged by the reality. Then they are apt to fall into the crowds of small gamblers and other hangers-on at saloons, to increase the purchasable material at elections, and many become lost to all the proprieties of life. The great business interests of the State move on independent of this class—a rushing current sweeping past stagnant waters.

It should be our aim to truthfully depict the condition of things upon this coast, that those who come here may know that while labor reaps a higher reward here than elsewhere, the labor must be furnished to merit or receive the reward. We shall thereby not only secure an industrial class of population, but also educate them before they arrive in ideas very material to their own and the State's interest.

It is well for the State that the drones are outnumbered by the industrious workers of society; and it is far pleasanter to turn to the contemplation of the scenes around us than to dwell upon the considerations I have suggested. While this spot is remarkable as the centre of so many interests growing into importance, and as the Capital of a great State, the scenes by which we are surrounded are peculiarly pleasing and suggestive, because they are apt illustrations of the value of intelligent labor. Here are gathered the lavish abundance of cultivated nature, the fruits and flowers of this productive soil and genial clime; the mechanisms that almost think as they work; the noblest specimens of animal life, and a vast concourse of intelligent men and women, who represent a powerful and growing State.

"We come with firstlings of our grain and flocks,
With luscious fruit whose tint the sunset mocks,
With rare inventions, and with cunning tools,
With choicest fabrics of our mills and spools,
And many things by mind and fingers wrought,
Born of a tasteful or a useful thought;
All these to offer 'neath a common fane
In generous rivalry, for praise, not gain;
While mingling gratulations for the yield
Of liberal orchard, vineyard, fold, and field."

These displays are the result and evidence of modern civilization. Greece and Rome had their festivals and games; but their recognition

of nature was pronounced in orgies which the pen now refuses to describe; their highest aim the development of the athlete in qualities now chiefly prized in the thoroughbred. This development may have been necessary when the pressing ambition of chiefs, and the perpetual bickering of States, made every man a soldier; when weapons were rude; when power of arm to cast the spear, and fleetness of foot to advance or retreat, gave victory or retrieved disaster. Our civilization has a nobler meaning, founded on universally diffused intelligence. We recognize the power that knowledge has in enabling man to master nature; guiding its immense energies to labor in his service, freeing his mind from superstitions, and creating beauty and prosperity in manifold forms in our broad commonwealths. Look around you, and see the result of enlightened industry. Look out into the world for the effects of that inventive development which has seized on the wildest forces of nature, as steam and lightning, and taught the one to labor in the workshop, field, and mine; to draw the loaded car, or plough the deep with swift obedience; and the other to flash intelligence across oceans, and circle the earth, pregnant with thought. The rude forces that once spoke only in terror to man, enfeebling his mind with their awful manifestations, seemingly the work of subtle and fiendish spirits, now calmly labor in his service. His intellectual nature is emancipated, and vindicates its mastership over all earthly created things; for intelligence has allured these invisible and impalpable agencies to the use of man, adding to his industrial strength beyond estimate. So the cunning hand of the artisan, informed by education and experience, gives being and purpose to myriad forms of machinery, which perform the labor of the farm and workshop, and illustrate this age as the noblest the world has ever seen in the development of science applied to the uses of everyday life. The economy of time and labor produced by modern machinery is wonderful. The work of one hundred millions of men is performed by machinery in Massachusetts alone, in a single year.

Not only has intelligence given us control over the subtle elements that once roamed destructively and masterless around the pendant globe, the objects of fear to abject superstition; not only has it evoked from the forest and mine the cunning mechanisms that plough and reap, that measure and weave, that dig, and sew, and print; but it has beautified our homes, enhanced our comforts, conserved our health, lengthened our lives, made life desirable by many additions to its enjoyments, and added to our resources, our wealth, and our power. "The educated man," says Carlyle, "stands in the midst of a boundless arsenal and magazine, filled with all the weapons man's skill has been able to devise from the earliest time; and he works accordingly with a strength borrowed from all past ages."

In no department of human industry has education produced more valuable results, or may more future benefit from it be expected, than among agriculturists. Sir Humphrey Davy once remarked, when speaking of the future influence of agricultural chemistry, that "nothing is impossible to labor aided by science. The objects of the skillful agriculturist are like those of the thoughtful patriot. Men value most what they have gained with effort, and a just confidence in their own powers results from success. They love their country better because they have seen it improved by their own talents and industry, and they identify with their own interests the existence of those institutions and pursuits which have afforded them security, independence, and the multiplied enjoyments of civilized life." Of so much importance to the community is the subject

of education in reference to agricultural pursuits, that our national and State Legislatures have fostered it by well intentioned legislation, and by occasional grants and subsidies. The idea is being exploded that the mere rudiments of education are all that are necessary for the boy who intends to be a farmer. There is no pursuit in life where thorough instruction, especially in the physical sciences, is more needed; none where scientific and practical knowledge more increases man's power—not for the purpose of compact and elegant farming merely, but to preserve our vast agricultural domain from waste, to renew the powers of nature with adequate fertilizers, to bring our domestic animals to higher perfection, and extend the range of useful productions. By thus developing and preserving the wealth of the soil, we promote the prosperity and progress of the country. To do all this effectually, the farmer needs contributions from every branch of science, and aid from every art. Genius, as well as industry, is needed; intelligent and patient experimentalism to discover the abstruse processes of nature, and apply them to everyday use. And the want is not for a few scientific agriculturists merely, but that the great body of farmers shall have that practical and experimental knowledge that will call to their aid all the resources of nature. Where a pursuit is the basis of all others, no improvement that can be secured for it is to be neglected. For adequate improvement a State University, founded on a proper basis, commensurate in extent with the number of scholars for such an institution the State can furnish, with professors of the highest attainment, and furnished with ample means of experiment, should be erected in our midst; an institution that will supply to the future farmers of our State that scientific and practical knowledge of their profession which cannot otherwise be obtained, and make all means of knowledge tributary to the elevation and efficiency of their pursuit. Our ordinary educational institutions furnish instruction within a certain range, and within their sphere are invaluable. But something beyond that range was in the mind of Congress when it made a grant of land to each State for the purpose of a college that should have, "for its leading object, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life." If less than this is aimed at, the project had better be abandoned; for all that is less than this is supplied by our ordinary schools and colleges, and better supplied, each year. The object in view is to reach the industrial classes with practical knowledge useful in their various pursuits, and chiefly the agriculturist.

Who are the industrial classes? They are not merely the men who hold the plough or strike the anvil. They are not only the laborers who furnish muscle to mechanical pursuits. The designation includes the men of combining mind and inventive genius, who penetrate the domain of nature and adapt its great forces and principles to human needs. Thus Franklin, investigating and experimenting upon electricity and lightning, and practically applying his brilliant discoveries by producing the lightning rod, was as clearly identified thereby with the industrial classes as when he set type or worked the rude old printing press. When Morse demonstrated the practicability and utility of electro-magnetic telegraphs, he vindicated his right to be ranked among the most eminent of the industrial benefactors of mankind. The elder Brunel, the son of a farmer, whether inventing machinery to cut blocks for the rigging of

ships, or engineering his Thames tunnel amid immense difficulties, in all he undertook distinguished by untiring perseverance and inexhaustible fertility of invention, gave evidence of the benefit of education to this class, as did the younger Brunel when he invented the broad-gauge locomotive, and constructed the Great Eastern and Leviathan. The Stephensons, elder and younger, illustrious for their mechanical inventions and magnificent structures, shed imperishable honor on the industrial classes. Sir Humphrey Davy takes this rank by his electro-chemical researches and discoveries, not less than by his invention of a safety lamp which has saved the lives of thousands.

Kinglake, an English historian of the Crimean war, whose able work has excited much notice, objects to the application of the phrases "true honor" and "true glory" to men like these, as a desecration of terms, which he deems should not be borrowed for such a purpose from warlike heroes. He ridicules the "extravagant veneration of mechanical contrivances" and glory of the mechanic arts which were indulged when the "cathedral of glass," or Crystal Palace, climbed high over the stately elms at Knightsbridge. In the magnificent exhibition of the industries of all nations, he saw signs which might lead to the conclusion that England was failing in her ancient spirit. In his view "an army is but the limb of a nation, and it is no more given to a people to combine the possession of military strength with an unmeasured devotion to the arts of peace, than it is for a man to be feeble and helpless in the general condition of his body, and yet to have at his command a strong right arm for the convenience of self-defence." How false his theories are our own national experience amply shows. What more sublime instance of devotion, patriotism, and courage has the world ever seen than that displayed by the American people during the desolating struggle through which this nation has passed! We had been deeply engrossed in the pursuit of wealth, devoted to the arts of peace, were unused to war, but were not corrupted or enfeebled. From the farm, the workshop, the profession, our people poured forth in countless numbers to sustain the national arm, and vindicate the national cause. Amid discouragements and disasters, the frown of Europe darkening our cause, with accumulating debt weighing heavily on the resources of the country, with hope deferred by seemingly endless sacrifices, our people evinced a heroic and king-like power and constancy, and vindicated the power of a people among whom labor is honored to preserve their liberties and the integrity of their country. Devotion to the arts of peace may be immeasurable, and not inconsistent with spirit and excellence in war.

The eminent men whom I have named are illustrious instances of the power of genius applied to mechanical and scientific pursuits, and some of them furnish examples of the power of intellect in creating for itself distinction in spite of defective education. Franklin relates that he lived on vegetable diet to save a few pence from his day's wages for the purchase of books, learned a little geometry from a treatise on navigation that he picked up at a bookstall, and got his clear and powerful style by studying the *Spectator*. Perhaps his experience in a printing office, that excellent school, supplied the lack of other teaching, or his powerful mental organization needed little extrinsic aid to produce admired results in physical and political science. What more Franklin might have accomplished with thorough education cannot be estimated. George Stephenson began life in poverty. He was a self-educated inventor. He created English railroading, and perfected the locomotive engine. But the genius of his son, apparently of the same character, was carefully cultivated by

the best instructors, and took a broader sweep. The finest engineering successes of the world owe their existence to his splendid conceptions and execution.

Capacity to achieve such brilliant results is rare, but is confined to no class of men. There is as little a royal road to genius as to learning. General education will reveal it. The benefits to the world of the labors and discoveries of one such man outweigh all the cost of the education of a generation. But while such splendid issue may be rarely expected from thorough education, the stimulus of intellectual culture upon average minds is strikingly marked by the constant improvements in every branch of mechanics, as witnessed by the patents issued by the Government, and the fact that those States which have carried instruction to the greatest extent furnish the greatest proportion of inventors. Look over any list of patents issued, and you will see evidence of restless intellectual activity among our mechanics in improvements upon every conceivable article of use or luxury—from a pencil-sharpener to a piano-forte; from a cheese-press to a steam fire-engine; from a horse-rake to a quartz-crusher. Wherever there is a want, invention struggles to supply it. A thousand busy brains contend with any obstacle until it is removed. The vast grain fields of the West required facilities superior to the sickle and cradle, and lo, the reaper! that sheared by the acre. The demand for rapid communication created the steamer, the railroad, the telegraph. The war demanded destructive agencies, and its wildest energies had gratification in swamp angels, monitors, and repeating arms. Agriculture has had its share of the benefit of its improved machinery, in the useful experiments which have been made in the nature of soils, the value of fertilizers, the improvement of stock, the introduction and propagation of new and valuable plants, and, in fact, in every department of its extensive domain. Intelligence has done much to direct the labor of the farmer, and much more to lighten it. Yet, after all the discoveries and improvements in this great branch of industry, how much remains to be known! Natural laws are infinite, and their application to the uses of life immeasurable. We must yet acknowledge our ignorance of these laws, and our perplexity at their familiar operations. Science, practical and speculative, was baffled at the potato rot and the cattle disease, and has never certainly discovered the causes or remedies. Organic husbandry is one of the richest departments of science, and yet is almost wholly in its infancy. And of that which is known of agricultural chemistry, of vegetable and animal production, of physics, meteorology, vegetable and animal physiology, and geology, all necessary to be known for thorough farming, there is less of scientific application than in any other pursuit capable of being enriched by research. This is so because it is easy to be a careless farmer, and even an ignorant one, and yet to be moderately successful, where nature does most of the work herself, and does not immediately resent and punish a violation of her laws. To extend a knowledge of nature's operations, and of the laws which govern them, and to enforce the practical application of the discoveries of science in this broad department, generous facilities must be afforded for experiment and instruction.

To aid this object, an Act of Congress of eighteen hundred and sixty-two provides for the establishment of colleges of agriculture and the mechanic arts in such of the States as avail themselves of its provisions, and grants to each State thirty thousand acres of land for each Senator

and Representative in Congress under the apportionment of that year, to be selected from the public lands within the State subject to sale at one dollar and twenty-five cents per acre, if these be sufficient, and if not, then the State is to receive land scrip for the requisite amount. The principal derived from the sale of these lands is to be invested in stocks yielding not less than five per cent, and the interest to be appropriated to the endowment of a college for the liberal and practical education of the industrial classes. The principal fund is to remain inviolable, except that ten per cent of it may be expended for the purchase of land for a site, or experimental farm; but no portion of the fund is to be applied to the purchase, erection, or repair of any building. The States were required by the Act to express their acceptance of its benefits within two years after its passage, and to provide within five years at least one college of the character stipulated. Our State Legislature accepted the benefits of this Act by joint resolution passed in eighteen hundred and sixty-three, but has taken no steps toward providing a college. Under this Act the State is entitled to one hundred and fifty thousand acres of land. This sounds like a munificent gift, and was such an intention; but it is qualified by the provision that this land is granted only after survey, and from lands subject to private entry; that is, from those only which have been offered at private sale and no purchaser been found; which in this State could be of but little value. Besides, the United States makes no surveys of its lands here unless the fees of its officers are advanced by the parties desiring the surveys. The grant of land to this State, to be selected within its borders, is not likely to be available for any purpose except to promote litigation and uncertainty, if we may judge by the present condition of titles to land heretofore nominally granted to the State, but really withheld from it by the failure of Government officers to provide for its segregation.

By the report of the State Surveyor-General of eighteen hundred and sixty-four, it is shown that of all the grants of land to this State for various purposes, not a single acre of any description has been listed or patented to the State, although all the duties required of the State officers have been zealously performed for fourteen years, and very much of the land has been sold by the State. Notwithstanding frequent attempts of the State Legislature to remedy the difficulty, and equitable decisions of our Supreme Court, the titles of nine thousand citizens, pioneer purchasers, are in an inchoate state, subject to attack, a frequent source of litigation, and consequent distress and poverty. The prosperity of the State must be greatly damaged by this unsettled, uncertain condition of titles, for thriftlessness must result. The only remedy is further legislation by Congress to compel the subordinate officers at Washington to comply with the terms of donation, and rescue the titles of our farmers from embarrassing uncertainty. I am not hopeful that the State can realize for many years to come any substantial benefits from the grant of one hundred and fifty thousand acres for an agricultural college. The public lands heretofore ceded to the State for specific purposes must first be segregated, and the titles granted by the State in good faith be recognized by the Government. The remainder must be surveyed and brought into market. Such portions as then fail to find purchasers will be subject to private entry, and will be available under the college grant for what they are worth. The lands granted for the purposes of this college will thus be the very last in the State upon which there can be anything realized, and nothing can be expected from this source for a long time to come. Yet by the Act we are required to

establish the college within five years from the passage of the Act, or we shall forfeit the donation. The next Legislature must take the requisite steps for this purpose, or we lose whatever advantages may be derived from the grant.

The benefits of the Act of Congress being so questionable and remote, is it the best policy to let the grant relapse by inaction? or only take such action as shall secure the gift, and wait for further legislation of Congress to make it available? or proceed in earnest to found a college that shall fill the conception of Congress and prove a blessing to the State?

It seems to me the Legislature will not desire the unpleasant responsibility of allowing this grant to be lost by its failure to take the necessary steps to secure it. The time will come when there will be lands within the State available under this grant; and if not, the grantees of the State may use the scrip in other States, or in the Territories. The peculiar complications of our landed interests depending on congressional grants would disappear with judicious legislation. The General Government should act upon the principle that grants of land to the State vested an interest from their date—that the Acts of Congress operated as conveyances. This would be equitable, and solve the difficulty, provided it would also adopt the extensive surveys made by the State officers, to which there can be no valid objection, and then list the lands to the State which the latter has selected and sold, for the benefit of its grantees.

If the Legislature shall determine that it is not best to forfeit the grant by inaction, such a result may be averted, in my judgment, by the passage of an Act providing for and the organization of a Board of Commissioners for the location and establishment of a college. This Board should have the power to fix the location of the college, and be authorized to accept a suitable site. I do not understand that the requirement that the State shall provide a college in five years involves the necessity that the college shall be in full operation in that time, but simply that such legislative action shall be taken to provide for a college as indicates a purpose to comply with the terms of the grant. By this we shall gain time for enforcing upon the Government proper action for confirming the rights of the State and its grantees in the public lands, and for making this grant productive for the purpose intended.

Is it the best plan to actually establish a college, realizing as far as possible the requirements of the Act of Congress, at the expense of the State? I think so, for the benefits of such an institution will amply repay the cost; but the State should understand the duty it assumes, and the necessity of making continuously the requisite appropriations. The interest of the Seminary Fund can be applied to this purpose, but there must be liberal appropriations for the erection of the necessary buildings, the preparation of an experimental farm, and the employment of competent professors. As the State is able to give title to the lands donated by Congress for the purpose of such a college, a fund will be created, and the interest of that fund will lighten the burden. Private donations and bequests will gradually create an endowment for the college, until it becomes independent of State aid. The great universities of the East have risen from small beginnings until their property is valued by millions. We may lay the foundation of a great university now, and do much toward securing for it a useful and powerful future. But to realize the great needs of this Pacific empire in this respect will take long years of labor and patient waiting. We may expect much

from the gratitude of the future towards our undertaking, far less from the present. If we educate the youth of our State in the practical duties of life, and embark them in the pursuit of science, or art, and of wealth, we may reasonably expect that the benefits conferred will be remembered in future years by those who look back upon the university with affection, and that gifts and bequests will enrich its endowments and extend its usefulness. This has been the experience of all eminent educational institutions. For the present, a few public spirited men may bestow of their means to aid in the establishment of a college, but our principal reliance must be upon the State. A special tax of seven cents on the hundred dollars would raise a fund yearly of one hundred thousand dollars, which would sustain an institution of the character I shall describe, with moderate tuition fees, and which I deem the proper foundation for the future university. The tax which a State pays for the education of its children is the lightest of its burdens, and the most useful; for ignorance is an implacable foe of liberty and order, the fruitful parent of crime, misery, and disgrace. Every dollar expended to elevate the character and enlighten the minds of the young is saved from prospective expenditure to repress or punish crime. The duty of the State to provide means for the education of its children does not end with common schools. Higher institutions of learning cannot be sustained by the income derived from the pupils. They must be directly supported by the Government, or largely endowed by the munificence of individuals. The education which is imparted in them is not more for the benefit of those who are taught than it is for the good of society; and the State should provide the kind and degree of instruction which its own interests demand. The university should not be absolutely a free school; but superior education should be placed within the reach of the industrial classes by the liberality of the State at such rates of tuition that the poor may be benefited as well as the rich. I doubt not, if the State will organize such an institution on an adequate basis, that before many years private liberality will provide scholarship funds for the benefit of poor students, and thereby give the means of higher education to many best fitted by natural gifts to receive it, but who would otherwise be debarred by poverty. The benefits of this expenditure, like bread cast upon the waters, will doubtless return tenfold to the public wealth. From scientific culture springs inquiry, and from investigation, discovery. Should this undertaking produce one agricultural chemist like Leibig, the mere material advantages resulting from increased production would far outweigh its entire cost. Ancient Egypt raised pyramids to the monarch who taught his people to cultivate the valley of the Nile, and profit by the swellings of the sacred river. But what monument could properly attest our gratitude to him who should give to fertility and man the vast tule lands of this State? What values could estimate our gain, or the measure of our obligation? Our benefactor would be gone, perchance forgotten, ere the magnitude of his work was half comprehended. In the brain of an unknown English artisan the steam engine was begotten; but with its first pulsation Britannia started with a new and resistless vigor upon her unchecked course of empire. The cotton gin, the invention of a Connecticut artisan, had well nigh crowned a weed the king of the world. Humble and obscure may be the hand that kindles the beacon of discovery, but it is the world that watches the rising flame, and nations that read and profit by the light.

Observing that a very able report to the last Legislature, made by the State Geologist and others, objected very decidedly to an experi-

mental farm in connection with the proposed college, I requested the opinion of the officers of the State Agricultural Society as to the kind of institution required, and as to the propriety and feasibility of conducting agricultural studies or experiments without such experimental farm. The reply of Mr. Hoag was in confirmation of my own views:

"The Act of Congress donating the land describes the very kind of institution we want on this coast; one in which those branches of learning relating to agriculture and the mechanic arts shall have prominence; in which the education of the student shall be liberal and practical, so that he shall be fully prepared to successfully undertake the several pursuits and professions of life. This embraces the whole scope of physical and exact sciences; for all are required in prosecuting and particularly improving agriculture and the mechanic arts. They must all be taught, and taught practically. The branches of learning relating to agriculture can be thus taught only in an institution possessing all the facilities of an extensive laboratory, for an examination of all the materials of which the earth is composed, and for an analytical examination of all the products of the earth. It must also possess the facilities of testing the conclusions drawn from experiments in the laboratory, by applying them directly and practically to the operations of the farm, where the chemical actions are performed by nature herself in her own great and well appointed laboratory."

Hence an experimental farm is a prime necessity to such an institution. The value of experimental farming has been demonstrated in France under the patronage of the Emperor, who has done more for the improvement of agriculture and rural economy during the last ten years, than all the other rulers of Europe. In addition to lectures on agriculture and horticulture, delivered by first rate men in the Capital and in the provinces, agriculture is taught by precept and example on experimental farms, with excellent results. There are hundreds of agricultural schools in Europe, some wholly sustained by Government, others by private effort, and some by the two united. With scarcely an exception, whether independent schools or dependent on colleges for their teachers, each is connected with a farm. The great advance in agricultural chemistry in Europe is due to the constant experiments conducted in these institutions.

The valuable results produced by this system in Europe have excited emulation in the United States; but from a variety of causes such schools have not been so numerous or well sustained here, the principal reason being, probably, that the fertility, abundance, and cheapness of our lands, render less necessary the efforts of scientific men to supply the drain on the resources of nature. The exuberant productiveness of our domain, far excelling the capacity of artificial stimulation, and the readiness with which worn farms may be exchanged for virgin soil, prevent the interest that would be otherwise felt in agricultural chemistry. Yet several agricultural schools, under the patronage of State governments and private liberality, are in comparatively successful progress, and in every instance in connection with experimental farms. I must confess that I am among those who "argue that an agricultural school would be an absurdity without an experimental farm attached." The school may be dispensed with from considerations of its cost, inconvenience, or doubtful benefit; but if it is established, the farm is an indispensable auxiliary. In the great number of such institutions in

Europe and the United States; the farm has been considered a necessary aid to the studies and experiments pursued, and undoubtedly was in the mind of Congress when the grant was made, for it authorized the expenditure of ten per cent of a principal fund, otherwise inviolable, for the purchase of land for such a farm.

The location of the farm should determine the location of the school. To be of any use to the school for practical teaching or experiment, it must be near at hand. To make the experiments of any use to the farmers of the State generally, the farm must be so located that its soil shall be a medium of that of the State, its climate the medium of the climate of the State—not in the fogs and winds of the sea coast, the greater heat and rarer moisture of the extreme southern part of the State, or liable to the uncertain climatic changes and late frosts of the Sierras. As near as possible, convenience of access should be considered, and a point on the main thoroughfares of travel in the State would be desirable, if it united other necessary conditions. Such a school, under the patronage of the State, its reports made to the Legislature, and printed by the State Printer, embodying a statement of the result of its experiments, should not be so remote from the Capital but that the representatives of the people may easily visit it, and see for themselves its practical workings and benefits, that they may legislate intelligently upon its interests, and convey correct intelligence of it to their constituents.

Among the industrial pursuits of the State, second to none in importance, whether judged by the numbers engaged in it, or its contribution to the wealth of the State, is the business of mining; not that kind of mining which is done at a broker's board, where speculators play with stocks that are often not worth the paper consumed for certificates. The real honest mining interest of the State needs scientific aid to develop and guide it. A knowledge of geology applied to mining, of metallurgy, etc., would be of vast benefit, and save many foolish enterprises and much waste. A professorship in the branches allied to mining should be instituted in the Industrial School, with facilities for teaching geology, metallurgy, and practical mining; and it should be the duty of the Professor to visit the mines with his class, and teach them mining, engineering, and surveying, by actual work on the ground. The advantage to the State of having our mining engineers and metallurgists trained here in a practical acquaintance with the conditions and processes of this coast is beyond estimate, and an ample field for observation, instruction, and experiment is open to them.

Four great interests should work harmoniously together in the future, for the benefit of this State: agriculture, mining, manufactures, and commerce. There can be no occasion for conflict between them, or between the sections of the State which thrive by them respectively. I so insist, because the attempt is made to persuade the agriculturists that it is proper to encourage a jealousy of the miners and mining section. Nothing can be more unwise for all concerned. The mining communities furnish ample markets for the products of the farmer; they buy his grain, his fruits, his cattle, and pay therefor with their own staple product. The greater the advance of the mining section of the State, the better customers are its people. Hence it is to the interest of the valleys to promote the rugged prosperity of the hills. So the miner buys his necessities more cheaply as the farmers of the State prosper in their useful pursuit. The commercial centres have an advantage in fostering the prosperity of the interior, whether mining or agricultural, because trade is thereby enlarged. All classes should be proud of our growing

commerce, and glad of any facilities by which it is extended. Our State extends over so large an area that it binds into one bundle these diversified yet concordant interests. But each of these performs its part in creating the prosperity of the State, and each has a concern in the success and stability of all. Hence political or social jealousy should be ignored. That man is an enemy to the State who stirs up such jealousies for any purpose, or who seeks to combine one interest or section of the State against any other. These considerations are of particular importance now when threatened legislation by Congress may throw the principal business of the mining communities of this coast into confusion, and impede the production of gold to an extent disastrous to the general welfare. Again, if the facilities afforded by such an institution as I have indicated, advance mining as well as agricultural interests, I desire that you farmers may see that your own good is thereby promoted by the extension of your markets, and greater demand for your products.

I concur in the suggestion of the report referred to, that it is better for the State University to select portions of the great field of science not now cultivated here; that it ought not to invade the domain of colleges now established. Our common schools and colleges will furnish the necessary training to fit the scholar for the practical and scientific courses to which the university should be confined. In the university there should be professorships of practical agriculture, botany, and vegetable physiology; geology, and mineralogy; zoology, and animal physiology; general and agricultural chemistry; mining, and metallurgy; mechanics, and engineering; drawing, and design; mathematics, and astronomy; military tactics, and engineering. Such an institution can only be sustained by the large annual expense to the State which I have indicated—a large expenditure, but one that would add to the future development, wealth, and distinction of the State beyond the power of figures to estimate.

I have purposely avoided minor details in this sketch, for the reason that they are better settled by experts, and their treatment is inconsistent with the limits or proprieties of a popular address. But there is one limitation in the Act of Congress making the donation of land which is of great importance—that military tactics shall be included in the studies of the university. Military discipline and drill have not occupied a sufficiently prominent place in our educational system. We have learned within the past few years the importance of this branch of education, and military schools have increased in number and popularity. We were totally unprepared for the late war, and to appearance devoid of military spirit. Aside from the superior efficiency our arms would have had early in the war if the volunteers had had a preparatory military training, the effect of the display of that martial spirit by the North, which is best exhibited by a people educated to arms, would have gone far toward deterring the ambitious leaders of secession from plunging into civil war; perhaps would have saved the sacrifice of hundreds of thousands of lives and thousands of millions of treasure. It is not necessary to keep a large standing army to be prepared for war. The same result may be reached by educating the people in the use of arms, so that efficient volunteer forces may be organized at the sudden call of the country. Great military leaders are more likely to be developed by the training in the National Military Academy; but the masses of the people may be transmuted into efficient soldiers in a few years by teaching military tactics and engineering in our schools. Boys will take naturally to this kind of instruction. It will furnish a pleasant change from ordi-

nary studies; and they will delight in learning the use of arms, company and battalion evolutions, and in observing discipline. These are the elements of successful soldiery. By means of them, implanted by the instruction of our schools and colleges, our youth may be so trained that when another war shall threaten or assail our land, the call for volunteers will rally to our standard, not a mass of raw recruits, soldiers only in spirit, but intelligent, enthusiastic, drilled masses of troops, scarcely inferior to a regular army in efficiency, and superior to it in moral characteristics.

I have treated this subject in its practical aspect, as the occasion seemed to demand. To many, the employment of large sums of money to organize and maintain such an institution will seem useless expenditure. It may also be urged with force that the State is already largely burdened with debt, and should practice strict and even parsimonious economy, until its debts are paid. There is an element of truth in the latter objection, and perhaps enough to determine the Legislature against the enterprise. But I believe the real interest of the State, even its monetary prosperity, will be so greatly advanced by the successful workings of such an institution, that the return will be manifold above the expenditure. We cannot afford to neglect any means of improvement on this coast. We have capacities for development here far exceeding the most ambitious statement. Our mines are practically exhaustless, and will be liberal of wealth on full development. Our geographical position, aided by rapid communication across the continent, will make tributary to us that vast commerce now awaiting inlet, and which flows as naturally in currents as rivers run to the sea, wherever it flows depositing riches. The caravans that traversed the East, carrying the trade of the Orient to the Mediterranean, built cities of palaces, and made empires great in power and opulence. Our agricultural domain lies open to enterprise, and is capable of feeding the thronging millions who will inherit this fair empire. Our mountain streams await the busy machinery that will ply upon their banks; and all the great industries that maintain powerful communities will be set in motion here to meet the necessities of the growing future. With such a destiny before our State, shall we neglect the means that will guide these results to the happiest consummation, and make those who come after us worthy of their inheritance, and able to secure it? Shall scientific knowledge be the only essential element of success that we shall not possess? Or shall we be content with sending a few of our children to the East or to Europe to procure the necessary instruction which our indifference or false economy denies them at home? Such is not the true policy for this State. We should attract men of culture and experience. We should secure original thinkers, men of genius, men of research, to teach our youth and stimulate and guide the development of our resources. That we may not lack advanced minds to lead in the race of progress, we should aim to develop intellect and true manhood here. It is better to exhaust all our wealth than to let the public heart decay or the public mind become attenuated. That State is greatest, though poor, where man is noblest, where labor is intelligent and free, and dignified with virtue.

" 'Tis your's to judge how wide the limits stand
Between a splendid and a happy land."

This age is marked by the progression of thought, and we must not be content to remain outside of the current. More is required of public

and private liberality now than ever before to build up noble institutions of learning, and more is conceded in other enlightened communities. Our State is old enough to undertake this duty, perhaps too long deferred, and secure to its children the advantages which are elsewhere deemed of leading necessity. To do so is true economy, for it is wise provision for the future.

To the agriculturist the future of this State is full of encouragement and bright with hope. Lured to these shores by dreams of sudden fortune, he found the blind goddess fickle and coy in his search for the grains of gold, but kind and constant when he wooed her through the golden grain; and he has discovered that in the rich loam of these valleys he has exhaustless treasures. From the lowlands the farmer is invading the mountains—the foothills he has long since taken with his countless herds of sheep—while like emeralds the little valleys gleam amid the hills, the brightest gems of the mountains. He guides the torrents from their rocky beds to the parched hills, and they return to him in streams of ruby wine; and fruitful orchards and smiling vineyards nestle at the very feet of the granite Sierras. With a soil of every variety, with the climate of every zone, with the children of every land, with a population whose enterprise knows no limit, and their energy no obstacle, he may without regret bid adieu to the golden days of the past, in which folly, recklessness, and crime, the wild offspring of sudden wealth, ruled the mad hour. He may turn from this to the bright dawn of that golden future in which California shall lay anew the foundations of true prosperity; shall build upon the sure basis of exhaustless agricultural resources with patient, intelligent industry, the empire of the farmer, to endure while there shall be seedtime and harvest, and while the earth shall bring forth her increase. Farmers of California, this it is your high mission to accomplish. Let us all, of every pursuit and profession, strive to be worthy our part in the lot of this great nation, which has passed through the fierce fires of civil war to emerge purified, ennobled, and strengthened; purified of slavery which chained industrial millions; ennobled by the great act of justice that established liberty; and strengthened by the closer knitted bonds of union that war could not sever.

ANNUAL ADDRESS DELIVERED AT THE ANNUAL FAIR

OF THE

Agricultural Society of the Northern District of California,

AUGUST 30, 1865,

BY GEN. JOHN BIDWELL, OF CHICO.

Mr. President, Officers, and Members of the Agricultural, Horticultural, and Mechanics' Society of the Northern District of California:

We live in an age of progress—in a period eventful beyond any other in ancient or modern times, and one of Science, Invention, and Discovery, which carry us forward with unprecedented rapidity in the scale of improvement and civilization. While this is true in a greater or less degree in respect to all nations, it applies with peculiar force to our own country, where, in comparison with the old world, everything is new and just budding into development. *Progression* is the order of the day, and the term most expressive of the character of the times. Progress seems stamped upon the very face of things, and points from the past to a higher future and ever onward. We see it in railroads that almost outstrip the winds in velocity; in steamships that plough every ocean against gale and tide, and in steam power applied to thousands of useful purposes. We see it upon the ocean and upon land; we feel it in the very air; it is on our rivers and plains; on the mountains and in the valleys; it pervades every place and everything, and is the life and spirit of the age. It is essential alike to individual and national prosperity. In peace it is like an angel of mercy, filling the land with inventions to abridge the labor of toiling millions; in war it is terrible, furnishing engines and missiles of destruction that would frighten the very demons of the lower world and make them rejoice to find refuge in the realms of Pluto. Of all people that inhabit the globe the American nation is the most progressive. More useful modern inventions have been made in America than all the world beside. Our example seems to influence the balance of the world and inspire them with progress. We discovered gold, and

soon every land was aroused to seek for gold. In our acquired domain marvellous discoveries of silver have been made; and forthwith a European monarch is seized with a desire to acquire territory, (not scrupulous, either, as to how he acquires it,) in order that he may have silver, too. Swift clipper ships were exclusively American property, till one day England became waked up by an American yacht, and now all Europe are rapidly casting aside their old seagoing tubs for swift and beautiful clippers. We made ironclad war vessels, and the whole system of naval warfare around the globe becomes instantaneously revolutionized.

The old world and the new are all activity and resonant with the hum of American inventions. In the spirit of enterprise and progressive ideas that are to revolutionize the world, both materially and politically, the United States have fairly won the advance of all other nations. That we have all the material resources necessary when developed by this American spirit of advancement to maintain the advance, and even to carry us greater lengths in the march of improvement, all intelligent Americans believe, candid foreigners admit, and there are few from any country so ignorant as not to know, or so bigoted as to deny it. With surprising vigor and elasticity, the population of the United States has expanded from about two million eight hundred thousand in seventeen hundred and seventy-six, to more than thirty-one and a half millions in eighteen hundred and sixty, increasing at the wonderful ratio of nearly thirty-five per centum on an average during each decade. At a less ratio than this, a calculation based upon a very reasonable estimate of the causes of our numerical growth in the past will show the following amazing expansion during the remainder of the present century:

Eighteen hundred and seventy	42,000,000
Eighteen hundred and eighty	56,000,000
Eighteen hundred and ninety	77,000,000
Nineteen hundred.....	100,000,000

But rapid and healthful as has been the growth of population in the past, and amazing as it promises to be in the future, the increase of wealth has been and promises to continue to be still more wonderful. The value of real estate and personal property in the United States in eighteen hundred and fifty amounted to seven thousand one hundred and thirty-five million seven hundred and eighty thousand two hundred and twenty-eight dollars; in eighteen hundred and sixty it had more than doubled, and reached the vast sum of sixteen thousand one hundred and fifty-nine million six hundred and sixteen thousand and sixty-eight dollars, the ratio of increase being over one hundred and twenty-six per centum in the space of ten years.

In eighteen hundred and thirty scarcely a railroad had been begun in the United States, but in a few years we led the van in this, as in nearly all other improvements. In eighteen hundred and thirty-eight we had constructed and in operation eighteen hundred and forty-three miles of railroad, and from this point mark the improvement. We had in

Years.	Miles.
Eighteen hundred and forty	2,167
Eighteen hundred and forty-two	4,862
Eighteen hundred and forty-eight	6,491
Eighteen hundred and fifty	8,827
Eighteen hundred and sixty	31,185

Thus it will be seen that in the ten years immediately preceding the last date—eighteen hundred and sixty—over twenty-two thousand miles, or at an average annual rate of over two thousand two hundred miles, were built and put into operation, making an aggregate extent of more than thirty-one thousand miles of railway in the United States, or over six thousand miles more than would be required, if placed in a line, to encircle the globe.

But the agricultural productions of our country exhibit, too, a marked activity and advancement. The yield of wheat amounted, in eighteen hundred and fifty, to one hundred million four hundred and eighty-five thousand nine hundred and forty-four bushels. In eighteen hundred and sixty it rose to one hundred and seventy-one million one hundred and eighty-three thousand three hundred and eighty-one bushels. All other agricultural products exhibit similar or proportional results.

But how is it with our manufactures? We will examine the latest reliable authority on that point. The Superintendent, in his preliminary report on the census of eighteen hundred and sixty, says:

“The total value of domestic manufactures, (including fisheries and the products of the mines,) according to the census of eighteen hundred and fifty, was one thousand and nineteen million one hundred and six thousand six hundred and sixteen dollars. The product of the same branches for the year ending June first, eighteen hundred and sixty, as already ascertained in part and carefully estimated for the remainder, will reach an aggregate value of *nineteen hundred millions of dollars*. This result exhibits *an increase of more than eighty-six per centum in ten years.*”

I have made these references to the manufactures, railroads, agriculture, population, and wealth of the United States, in order to show that, in material development we do possess the inherent and unmistakable elements and prestige of permanent progress. This is no fancy sketch, but a reality so apparent to every one that he who runs may read. It cannot be denied that the late civil war which threatened the existence of our governmental fabric, was a heavy blow to our prosperity. And let us hope that, as the past can never be recalled, so may fraternal war never return to deluge our happy land in blood. Let us regulate our actions and policy upon the principle that,

“Peace hath her victories,
No less renowned than war;”

and may that Providence who guideth the destinies of nations inspire us with prudence and wisdom to establish our future career upon the solid foundations of truth and justice, as the only true way to preserve enduring peace. Nothing short of the preservation of our national

existence or national honor should impel us to resort to the arbitrament of the sword. The blow was heavy, but we have emerged from the contest with strength and confidence even greater than when the war began, and with the brightest hopes for the future. Circumstances have changed; a new and better order of things, we believe, has taken place, and we begin to march towards the future under promising but different auspices. The gushing sources of our former prosperity have not been annihilated nor dried up. Our national boundaries embrace the same expanse of domain. We face upon the two great oceans of the world, with over twelve thousand miles of shore line, and a greater extent of inland navigation than all Europe. We have within these boundaries nineteen hundred millions of acres of arable, grazing, and mineral lands. Of this vast area there are five hundred millions of acres of the most fertile and productive soil on the globe. The most recent reliable data show that less than two hundred millions of acres are embraced in improved farms; showing a balance of over three hundred millions of acres awaiting the creative energy of labor to transform them into the abodes of wealth and civilization. It was not unreasonable to suppose that, while recuperating from the effects of the war, we should remain for a time apparently stationary. But already signs of returning prosperity appear. The statistics of the port of New York for the first six months of the present year give clear indications of improvement in the right direction, as will be seen by the following table from the report of the Commissioner of the Department of Agriculture for the months of June and July, eighteen hundred and sixty-five:

TOTAL IMPORTS

Of Dry Goods and General Merchandise at New York from January first to July first, and Exports at the same place and for the same time.

	1863.	1864.	1865.
Total imports.....	\$90,107,715	\$129,311,035	\$70,542,220
Total exp'ts, exclusive of specie	95,117,505	92,747,942	80,693,722
Total exports of specie.....	20,587,619	29,268,846	17,988,916

There are abundant resources to establish the belief that our volume of material wealth, as measured by the statistics of eighteen hundred and sixty, is fast returning, and that, too, before we have scarcely time to realize that we are in a state of peace. The indications are truly encouraging. There is not a shade of doubt that our national debt of three thousand millions of dollars can be borne without feeling the burden to be oppressive. I will not pause to argue the question whether or not this enormous amount can be made to operate as a national blessing. It is sufficient to know that the faith and honor of the nation are pledged to its redemption, that we have abundant means in prospect, and that we are unalterably resolved to keep that faith and use those means till every dollar of the debt be discharged.

Would an individual possessed of large and productive property, consisting of lands, cultivated farms, villages, machine shops, with plenty of dutiful, industrious children, skilled in all branches of business, some

adopted, and others constantly coming for adoption, and all competent and willing to take charge of this property and carry it on—would such an individual, a thrifty farmer if you please, consider himself hopelessly involved if he should, by some unavoidable occurrence, owe one fifth of the taxable valuation of his property? No. All he would ask would be to be permitted to pay a reasonable interest for a reasonable time in which to pay the principal. Why, the cash value by the census report of farms alone—not including farming implements and machinery—amounted in eighteen hundred and sixty to six billion six hundred and fifty million dollars, a sum more than twice as large as the national debt. I repeat, there is no cause for discouragement. On the contrary, there is reason to rejoice; though our debt is great, we are possessed of boundless resources with which to meet and discharge that debt; though our stature as to territory, population, and wealth is of gigantic proportions, yet as a nation we are not in a state of decline, but in the very bloom and vigor of youth; though our burden is large, yet our growing strength will enable us to bear it easily. We have reason to rejoice, too, that we are in fact as well as in theory a nation of freemen—that we are in a condition as a nation to practice the doctrines we have preached as political axioms of our faith, that all men are created equal, and that all governments derive their just powers from the consent of the governed, and thus demonstrate before the world that man is capable of free, enduring self-government. Let us regulate our actions according to the principle of justice; and not unnecessarily be drawn into war with foreign powers, and thereby increase our national burden. Then, with our boundless and ever-augmenting sources of wealth to be developed by our ever-expanding population, enlarged by a constant stream of immigration from Europe, we shall at once mount upward in the scale of progress and civilization with a velocity that shall leave all other nations in the distance. And now, Mr. President, permit me to say that we, as Californians, have occasion to feel a just pride that California is a part and parcel of this great and glorious nationality. From her position it is her mission to act an important part in the future, as she has done in the past, in sustaining the national credit, and furnishing the sinews of currency. Her golden treasures flowing into the national system for twelve years prior, as well as during the great rebellion, when all our hopes hung breathless upon the nation's fate, gave temper to its nerves, added strength to every bone, muscle, and tissue of the body politic, and supplying a constant stream of life-giving nutriment, gave it power to meet the shock, surmount every obstacle, and come forth crowned with enduring laurels of victory. It was the high privilege of California to first unlock the golden fountain. The discovery and development of the mines here led to the discovery and development elsewhere—in Australia—Colorado—and all over the Pacific slope of North America. Every field of enterprise, every nation, agriculture, commerce, all industrial pursuits, and perhaps every human being upon the globe, have felt their influence.

But great as have been the results of the discovery of the precious metals—the impulse given to the world's march, or the particular benefit to our own country at a most opportune period—we cannot ignore the fact, that agriculture is the foundation, and, therefore, the most important of all other pursuits. Without increasing production by cultivating the soil, no civilized nation could exist—blot out this paramount pursuit, and but few of the present population of the globe would be able to survive. But while agriculture is by common consent placed first in the

scale, do not understand me to lightly estimate the value of other branches of industry. They are as important in developing agriculture as agriculture is important to the existence of man. Without the aid of the mechanic arts, and of science, and of all useful professions and occupations, the intelligent agriculturist of to-day would have advanced but a short distance upon the wide space which now separates him from barbarism. There is, then, Mr. President, a harmony or co-ordination of interest between agriculture and all other useful pursuits. One cannot flourish without the other. We place agriculture first, because it is indispensable—as the first letter of the alphabet is indispensable, so all the other letters are indispensable to the construction of syllables, words, and sentences. Advance agriculture, and you advance all other branches of human industry.

It is to me, Mr. President, a source of much gratification to witness the efforts which your society are making to advance the permanent interests of the State. I know of nothing better calculated to awaken interest, and stimulate generous emulations, than exhibitions of this character. They are powerful incentives to industry and improvement. As evidence of the fact, it ought to be sufficient to mention that fairs of this kind are held and patronized most where agriculture and the mechanic arts are in the most flourishing condition. But to set the question entirely at rest, I will state what all can see with their own eyes, and what none will have the temerity to dispute: the ladies always patronize fairs, and they are the fairest portion of all fairs—whatever they patronize is sure to succeed. I am most happy therefore to be able to bear witness that, judging by this infallible rule, without attempting to describe the gorgeous display of fruits and flowers and works of industry and skill which crowd this noble hall, and challenge comparison, that your exhibition is a grand success—that Marysville, the Queen City of this magnificent valley, is alive to the future as she has ever been in the past, and is moving on the true and broad road to a higher prosperity. The same exertion and enterprise that have created this beautiful and flourishing city—that have lined the margins of these rivers, and dotted the plains and foothills with farms, gardens, orchards, and vineyards—I say, the same efforts all over the coast would banish dull times from the land, and convert this into the most prosperous, beautiful, and desirable region upon the face of the earth. My time on this occasion would not permit me to particularize, except to a limited extent, and much that would be both useful and interesting to know must be omitted. It will be sufficient for this occasion to say that the soil, climate, and many other features of California, are unsurpassed. It is a region of wonderful variety and production. The cereals are here produced of superior quality, and in larger quantity per acre than in any other part of the United States. It would be a poor farm indeed, and badly cultivated at that, if it failed to yield twenty-five bushels of wheat, and thirty of barley or oats per acre. Fifty bushels of wheat are no uncommon crop, and other grains in proportion. In some localities, generally in rich alluvial bottoms like those of the Yuba, Indian corn flourishes in a manner to compare favorably with the famous Valley of the Mississippi. All the productions known to temperate and semi-tropical climates are or may be produced here in the greatest perfection and abundance. If one half of the real capabilities of the soil and the advantages of the Pacific coast were known abroad, I do really believe we should be overwhelmed in a single year with millions of population from Europe and the Atlantic States, provided they had the means to come

here. The climate presents every possible attraction that can be imagined. It is salubrious and invigorating, and adapted to the production of many things only known to lower latitudes in other parts of the world. Italia cannot boast of skies more serene than our genial and glowing summers present—these summers that make this emphatically the land of the fig, the grape, the olive, and the pomegranate, and ripen even the orange in some localities. The evenings are most charming, and more than redeem the effects of the heat during the day. In this gorgeous Valley of the Sacramento, the cool breezes playing alternately from the ocean and the snow-capped summits of the Sierra and the Coast Range Mountains, refresh and purify the air, and render the nights and mornings, as well as evenings, delightful beyond description. No person probably ever came to California and went away without desiring to return and enjoy again the beauties of the climate. Those who have left with the intention of remaining away permanently, are almost sure to come back again. They will tell you that no one can fully appreciate the climate here, and its many advantages, until he has left it and attempted to live in another. The contrast then becomes glaring, and invariably inclines them back to this land of sunshine and pleasant prospects.

But I will not deny that, with all these advantages of fertility, salubrity, fruitfulness, and many more impossible for me now to specify, there is room for vast expansion, and a field that would require the labor of millions to develop. All that is wanted is a market for what we can produce, and an abundance of skilful and intelligent labor. If we could sell everything we could produce here, the labor would naturally flow in this direction and fill the vacuum created by the demand for production. As it is, there are many causes which tend to postpone the attainment of all that we desire, and which address themselves to every one whose hopes and prospects are identified with the Pacific coast. It is not wise to bask always in the sunshine, and contemplate only the bright side of the circumstances that surround us. Even in the most favored lands there are clouds that overcast the skies, but unveiled brightness is beaming above them. Labor is the great desideratum of the Pacific States and Territories. We must have a greater population to supply that labor. Business becomes at times so dull, and money so scarce, that we can hardly pay our taxes, much less our debts, and find means to expend in improvements. Our seasons, in the opinion of some who are not acquainted with all the circumstances and conditions, are too wet, or too dry; and millions of acres, only arid and apparently sterile, they imagine to be worthless. Another drawback to our prosperity is, they say, there is a large number of non-producers. They are found all over the country, on the ranches, in the saloons of our towns and cities, almost everywhere. As they are not inclined to work, they must of necessity live off the labor of those who do work. These are some of the clouds that lower in our horizon.

In answer to all these evils, I must be permitted to state that no country upon earth, not even our beautiful and lovely California, is free from imperfections. The world was not made, finished, and ready to be enjoyed, without the labor of intelligent beings to do what nature left undone and designed for them to do. I know there are many idle people in California, who do not pretend to work at all, and some who do pretend, scarcely more than half work. I do not believe there are any of that sort here, because such people would not have enough ambition to get here. The warm climate, and the little labor requisite to obtain the necessities of life, do, no doubt, invite to idleness. Now, I can speak

from experience, when I say there is no necessity for idleness. There is enough, and more than enough, for every man to do. The honest, industrious men of the State—the very bone and sinew of our prosperity—work and endure fatigue here as well as in any climate in the world. Idleness invariably enervates the system and leads to vice. He who permits an able bodied man to live around him in idleness does the man a positive injury, and is only educating him for the highway and to become a candidate for the gallows or the penitentiary. I will have no such men about me, because I do not wish to do any man an injury. If every man could be made to see the question in this light, the remedy for idleness would be certain, immediate, and complete. Among the Mexican population of this coast there is, no doubt, a trace still existing of the pastoral habits derived through their forefathers from Spain. This kind of life may be more or less copied by Americans and others who find their way out here through Mexico or other Spanish American countries. Buckle, in his History of Civilization in England, says of Spain: "The low state of agriculture in Spain may be ascribed partly to physical and partly to moral causes. At the head of the former must be placed the heat of the climate and the aridity of the soil. Most of the rivers with which the country is intersected run in deep beds, and are but little available, except in a few favored localities, for purposes of irrigation." Also, "that the vicissitudes of climate, particularly in the central parts, make Spain habitually unhealthy." And he further observes: "Another feature of this singular country is the prevalence of a pastoral life, mainly caused by the difficulty of establishing regular habits of agricultural industry. In most parts of Spain the climate renders it impossible for the laborer to work the whole of the day; and this forced interruption encourages among the people an irregularity and instability of purpose, which makes them choose the wandering avocations of a shepherd rather than the more fixed pursuits of agriculture."

Now, Mr. President, whether, from the fact of our living in what was once a Spanish American Territory, and coming in contact with people who introduced pastoral habits from Spain, those habits are beginning to tell on us, I will not pretend to determine. Certain is it that as a general rule no more enterprising people ever existed than those who have come to California since the discovery of gold. They have explored nearly every nook and corner of the Pacific slope. No danger has been sufficient to check their explorations. They have brought to light hidden treasures that have astonished and almost revolutionized the commerce of the world. Their herculean efforts are literally moving the mountains towards the sea. They have built cities, towns, and villages innumerable, and been the pioneers of civilization all over the Pacific coast, from Arizona to Cariboo. They have carved States and Territories from the regions of former savage desolation, and made the deserts to bud and blossom as the rose. I have an abiding faith in the Anglo-Saxon race. I believe they can do and perform wonders, and even withstand the allurements to idleness of this or any other climate. I speak of them as a class, of course, and believe a noble destiny awaits them in the future.

In regard to the dullness and stagnation in business, which from time to time pervade the land, there are many causes and many remedies. We should ask ourselves: Do we not continue to practice the habits we assumed in former and flusher times, and thereby live beyond the legiti-

mate bounds of our present available resources? It is true, too, that the scarcity of money, and the high rates of interest which capital commands, precludes the possibility of engaging in many enterprises for the development of the mines and the improvement of the material resources of the State; but we can and ought to produce more than we do, even with our present means and the present high price of labor and capital. I will not assert that we can at once remedy all the trouble that seems to beset our path; but I do say that it is in our power to remedy much of it. But so long as we continue to import things that can be produced here, just so long must we send away our gold to pay for them. We can and ought to produce all or nearly all of the thousands of barrels, boxes, and cases of dried apples, raisins, and other fruits, which we import, amounting annually to half a million of dollars. We could produce nearly all of the brandies, wines, malt and other liquors, if we must have them, which we import, and thereby save, annually, a quarter of a million dollars more. We have the means and should produce all of the butter, cheese, bacon, hams, pork, lard, lard oil, linseed, and in time, even olive oil, which we import, and thereby make a saving of at least half a million of dollars more every year. We have in this State exhaustless mines of nearly pure iron; and we can and ought to produce all of that material used for railroads, machinery, and other purposes, and thereby save annually millions of dollars more. These, and thousands of other things, which we ought and will eventually be compelled to produce here, or do without, we have to pay for in gold, and at prices which charge the consumer with transportation, insurance, and profit on the articles; and then again, with transportation, insurance, and profit, and the gold sent to pay for them, and this of course in addition to the original cost; all of which can be saved by producing them here. If we cannot do all of this at once, we should do as much as we can, and aim to make the residue at the earliest practical period. Is it true that in this land of luxuriant vegetation, where, literally, the "cattle upon a thousand hills" graze and thrive in winter as well as summer, with little or no attention, that we must continue to transport butter and cheese from New York? There is no such necessity, and I speak from experience.

But a few years ago nearly all the farmers of this valley, and I among the rest, purchased nearly all the butter they used—butter that had been imported across the Isthmus of Panama, or around Cape Horn. Some of it seemed old enough to have made a voyage around the world. I became ashamed of it, and resolved that if I could not, with thousands of cattle, which I had at that time, make sufficient butter to supply my own family—and my family is large, over fifty, and sometimes a hundred in number—I would do without it. And with many other things I have made similar resolves; and I am happy to be able to say that they have resulted in success. If the whole State, aroused to the importance of decreasing importations, which deplete our purses and absorb the means that would give us prosperity and independence, would make a firm resolve to manufacture more of many things or do without them, the result would be an impetus to all branches of industry that would revolutionize the condition of things and banish complaint from our shores.

However similar the pastoral habits of the early pioneers to this coast may be to those of Spain, as before alluded to, the comparison does not hold true in regard to the physical features—while in most parts of Spain the heat of the climate, as mentioned by the historian, renders it impossible for the laborer to work the whole day, and the climate itself, from certain causes, was habitually unhealthy, and the aridity of the

soil could not, on account of obstacles in the way of irrigation, be overcome; here in California labor is performed even in the most sultry valleys during all hours of the day and at all seasons of the year. On my farm at Chico, in this valley, where we claim to have a reasonable degree of heat, especially in time of harvest, I can scarcely remember an instance of a hand becoming sick in the harvest field. Perhaps some will say we don't kill ourselves with work at Chico. In reply, I will answer that we do not; and what is more, we do not intend to do so. I will tell you what we did do. We harvested the present season, during the hottest part of the summer, cut, threshed, cleaned, and put in the granary, ready for market, forty thousand six hundred and eighteen bushels of grain; three fourths of it wheat, and the remainder oats and barley, in thirty-six days, including all delays by breakages and other causes, averaging one thousand one hundred and twenty-eight and a quarter bushels per day, with an average of twenty-two hands, all told.

Now then, can men work in this valley? You have my answer, which is the best proof I am able to give. It is true the climate in some localities is somewhat miasmatic and productive of intermittent fevers, but the causes, local and transient in their character, can and will be removed. Until this can be accomplished, I would suggest that residences in such localities should be so constructed as to afford sleeping apartments in the upper story, and thus enable the dwellers along the margins of rivers, and in the vicinity of sloughs and tule lands, to escape from inhaling from the lowest stratum of air during the night. In regard to the aridity of certain portions of this State, and the apparent sterility of large tracts of land before referred to, we have the means of their complete reclamation at hand. The great remedy is *irrigation*. Different from Spain, all the streams of this valley, even our largest rivers, can be made available for purposes of irrigation.

Some have pretended to believe that irrigation was detrimental, and therefore not to be recommended. So is food, or any other useful and indispensable thing, detrimental if not used in a proper manner, in proper quantities, and at proper times. Time will not permit me to give even a faint idea of what I conceive to be the great importance of irrigation. It is such that it should, in my opinion, command the attention of the State and be a subject of State regulation. The short and partial experience already had in many localities has proved that even the most barren places, when irrigated, will produce the very best of grapes, fruits, and other products. In fine, such are the wonderful capabilities of the soil of California, that irrigation, properly conducted and applied to these barren hills, and plains, and mountains, would awake them as if by magic into such fertility, and life, and beauty, and fruitfulness, as to astonish even Californians themselves. The canals for irrigation should be made upon a system so as to harmonize with the reclamation of swamp and tule lands, and equalize the distribution of water for the benefit of all. Constructed upon an extensive scale, these canals, under proper regulations, could be made useful to conduct away the surplus waters in seasons of heavy floods, and thereby prevent the destructive effects of inundations. They would create sites and water power for mills and other machinery, and besides be available for purposes of navigation. The rivers of this portion of the State are becoming so rapidly filled up as to threaten the total destruction of navigation. The raising of the beds of rivers by continual deposition from the mines, while it destroys navigation and increases the danger from floods, diminishes the labor of transferring the waters into artificial channels. Preservation

from the danger of inundation should impress upon us the necessity of giving this subject early consideration. The tule and swamp lands of this valley, when reclaimed, which to me is as certain as time and seasons, will become the garden of the State. When the mountains and plains shall be redeemed from their aridity and apparent sterility by irrigation, then the great staple of export from the Pacific coast will consist, not in gold and silver, but in the products of the soil. In every country many things deemed essential to modern civilization are now transported, and probably will be for all time, from distant parts of the globe; and we have no reason to expect that California will be, even after the proudest triumphs in development we can ever hope to achieve, an exception to the rule. Vessels will continue to make our shores, laden with such articles of luxury and necessity which we may fail to produce here. Instead of exporting from this coast fifty or sixty millions of dollars to pay for these things, we would send hundreds of millions of dollars in wines and other agricultural products, and thus turn the premium on exchange in our favor.

The rearing of domestic animals is another subject which commends itself to the attention of all who feel interested in the welfare of the State. It cannot have escaped the observation of those engaged in rearing stock in California that the indigenous grasses, once so abundant as to pasture thousands of animals where only hundreds are able to subsist now, are fast disappearing from the plains. This is attributable no doubt to excessive grazing, especially by sheep and horses, which destroys the seed, and consequently the essential condition of reproduction. Weeds spring up and encumber the ground, and stock disappear. That these grasses can never be restored in their original excellence is, to me, extremely problematical. Whether any forage plant can be found that will grow upon our hills and plains, and become a profitable substitute to the original grasses, remains for the future to bring forth.

There must be a remedy somewhere in nature, but who will discover it? He who should succeed in making the discovery would be a benefactor to his race, and deserve the lasting gratitude of his country. Till this can be accomplished, it becomes us to be careful of the grazing capabilities of our land; otherwise we destroy what cannot be replaced. Hence arises the necessity, if no higher motive, of rearing breeds of finer blood, and diminishing the scrub races that have to such an alarming extent heretofore destroyed the grasses to little profit. There is another fact in connection with the subject of raising stock which deserves to be noticed. When pasture lands are not over fed so as to eradicate, and there is an abundance of pasture for stock in winter, it sometimes occurs that we have hard winters—cold weather, and some snow, that render it absolutely necessary to be prepared to feed stock, say at least one month, if we would be certain to save them. During a residence here of twenty-four years, I have witnessed but one such season—then there were from six to eight inches of snow, which lay in this valley for nearly a month. I feel it a duty to place this warning upon record, because what has once transpired is sure to occur again. I have seen also one, and only one, really dry season—that was eighteen hundred and forty-four. You have so recently seen the effects of dry seasons, especially in the southern part of the State, it is necessary only to make this passing allusion.

The subject of establishing agricultural schools and colleges, where the arts and sciences applicable to practical farming can be acquired for the benefit of the present as well as future generations, is one of momentous

importance, and I commend it to your earnest consideration. The subject of useful inventions is one of so much interest and about which so much is daily written and spoken, that it would be supererogatory to attempt to impart anything new to this intelligent audience; and even if I could do so, I should fail for want of time. I will only say that steam threshers, steam ploughs, spading machines, with perhaps hundreds of other inventions, are worthy the consideration of every agriculturist. If there is any one art progressing more than another by the aid of science and invention, that art is agriculture. No other calling is capable or is susceptible of greater improvements, no other profession is more respectable. Labor, it is admitted, is the true source of wealth, and must be free in order to be intelligent and honorable. Of all things necessary to promote the progress of the Pacific coast, none will compare with the completion of a railway across the continent. The Atlantic and Pacific railroad is the *sine qua non* of our destiny. Our hopes and prayers should be centred upon its earliest possible completion. With this great enterprise accomplished, our destiny, in spite of wicked men, would be inseparably connected with the Union.

Finally, Mr. President, I return to you and the officers and members of this society, and to the ladies who have honored the occasion with their lovely presence, and to all others who have to worship at this noble shrine of industry, my grateful thanks.

ANNUAL OPENING ADDRESS,

DELIVERED BY

DR. E. S. HOLDEN,

PRESIDENT OF THE SAN JOAQUIN VALLEY AGRICULTURAL SOCIETY.

Members of the San Joaquin Valley District Agricultural Society:

GENTLEMEN:—For the sixth time we meet to celebrate our annual exhibition of the products of industry, to behold familiar faces beaming with pensive pleasure, or lighted up with eager and joyous enthusiasm; on every hand we meet cheerful greetings, sunny smiles, and cordial congratulations. Whence springs this fraternity of feeling, this benevolent impulse of generous hearts, this glowing sunshine of the soul, gleaming all around with gladness, but from the instinctive consciousness of the moral grandeur of the occasion—a consciousness of contributing to the maintenance of the true dignity of labor; to the elevation of the working man, and to the improvement of the industrious arts—a consciousness of exerting a wide-spreading and far-reaching influence for good on human progress and civilization?

We have but just emerged from the smoke and din of the battlefield and the deadly strifes of a civil war, and, more recently, from the excitement of a county election, where political differences exist, and friends combat with the significant privilege, the ballot, to elect a friend to position, or an honest candidate to office; but here all political distinctions vanish, and we stand as a band of brothers to distribute our works of industry, labor, and experience, for the benefit of all; to those from the South and from the North, from the East and from the West, to congratulate each other for a fruitful and bounteous harvest, and a happy return of this festive occasion, the importance of which cannot be over estimated. It is an occasion worthy of an enlightened and enthusiastic people.

Members of this society, by your confidence and kindness you have retained me for the last five years as your President, and as a customary consequence, I have delivered to you as many annual addresses, in which I have made made agricultural societies, and the material which con-

stitutes them, my subjects. Although the subject of agriculture cannot be exhausted, and is always appreciated on these occasions, yet I propose, at this time, to change my base of thought, and speak of our California, the brightest and richest gem in the glorious circle of the thirty-eight free and independent States, over all of which to-day floats Freedom's banner—the stars and stripes—the beacon light that invites the subjects of other nations to our romantic and productive shores.

CALIFORNIA.

California, in name, is worldwide known, but her history—the history of her vast resources—is but little known outside of her borders. It is this knowledge we, as Californians, who are her adopted sons, should embrace all opportunities we have to disseminate; by so doing, we shall be educating hundreds of thousands of other lands to the inexhaustible resources and faultless climate which we possess, that they may be enticed to migrate here, thus giving to the Pacific slope what is most needed, population.

California presents one of the most beautiful and varied landscapes in the world; presents, too, a most remarkable instance of rapid advancement and growth in substantial prosperity and wealth; a climate to suit the most fastidious; her sea coast fanned by the cool northwest trade winds, giving health and vigor to the great Valleys of San Joaquin and Sacramento, (four hundred miles in length by seventy-five in width,) and to an altitude of four thousand feet in the Sierra Nevada. The valley climate is unsurpassed for its evenness of temperature and salubrity, while high up in the Sierra, almost perpetual snows cover the lofty peaks.

Eighteen years ago, California was but a wild, uncultivated wilderness, inhabited only by Indians, the wild beasts, and a few scores of white men. Eighteen years ago, steamboats, stages and railroads were unknown in this land. The waters of our magnificent bays and rivers were ruffled only by the canoe, paddled by the Indian, transporting his dusky family and household goods from one camping ground to another. To-day floats on these waters many princely steamers, transporting the lordly Saxon from rich and populous cities constructed upon the Indian's camping grounds, and upon the ashes of his fallen race. Eighteen years ago, the magnificent Sierra, towering in solitude for ages, looked down upon lonely valleys and plains, the surging of the Pacific only disturbing the solitude of the scene. To-day, we have half a million of population, scattered over mountain and plain, and the hum and din of business, and the ring of pick and shovel, make hundreds of towns, camps, and lonely mountains merry.

THE METROPOLIS OF CALIFORNIA.

San Francisco is a State pet; a city Californians take pride in; it being the great commercial centre, the metropolis of the Pacific, the third commercial city of the Union, and rapidly advancing to the second. She is the half-way traffic and trade mart of Australia, Japan, the Amoor River, and the Pacific Islands. Her population has increased from hundreds in eighteen hundred and forty-nine, to one hundred and twenty thousand; and her taxable property to over one hundred million dollars; her tonnage movement, entering and clearing annually over six hundred thousand tons, by one thousand nine hundred and eighty vessels,

freighting the productions and manufacture of every commercial mart and clime to her overburdened storehouses; and these, with her costly stores, halls, churches, entitle her to be called the Mistress of the Pacific. San Francisco is the only natural terminus of the Pacific Railroad, which, within five or six years will, with iron bands, cement the Atlantic and the Pacific; and who can estimate the immense total trade and traffic this great world's highway will bring to our young State?

AGRICULTURAL CAPACITIES OF THIS STATE.

The capacities of our rich, deep soil, aided by the warm, genial sun, surpasses the world in all agricultural and fruital productions, in quantity and quality. Figs, grapes of every variety, the olive, almond, citron, lemon, orange, in short, all the Mediterranean productions, grow and mature here with all their native luxuriance and perfection; while hemp, flax, tobacco, sorghum, cotton, and other great staples needed by the world, supply commerce, and enrich all countries that produce them. The State extends from latitude thirty-two degrees twenty minutes south, to latitude forty-two degrees north, is five hundred and seventy miles long, and has an average width of two hundred and thirty miles. It embraces eighty-nine million six hundred and eighty-five thousand five hundred and fifteen acres adapted to agricultural purposes, twenty-nine million acres of swamp or tule land, thousands of acres of which are now being reclaimed, and much of it producing unparalleled crops of vegetables, grass, and fruits. The area of the valley land is thirty million acres, making with the mountain land, a total of seventy million acres, suitable for agricultural and grazing purposes. Of this, there is under fence over six million acres, of which, one hundred and seventy-eight thousand nine hundred and sixty acres, in eighteen hundred and sixty, produced three million sixty-eight thousand six hundred and ninety-three bushels of wheat; one hundred and fifty-four thousand six hundred and ninety acres produced four million six hundred and thirty-nine thousand six hundred and seventy-eight bushels of barley; thirty-eight thousand six hundred and twenty acres produced one million two hundred and sixty-three thousand four hundred and fifty-nine bushels of oats. This year, as near as can be established up to this date, four times the above amount of cereals have been raised. Fruit trees and grape vines, in eighteen hundred and sixty, numbered six millions. These have quadrupled up to this time. Stock of all kinds, in eighteen hundred and sixty, numbered one million five hundred and seventy-six thousand nine hundred and eighty. Horses—one million five hundred and seventy-seven thousand; cattle—seven hundred and twenty-two thousand three hundred and seventy-four; sheep—four hundred and ninety-one thousand seven hundred and ninety-four; goats—twelve thousand seven hundred and forty-three; swine—one hundred and sixty-five thousand nine hundred and twenty-one; mules—forty-seven thousand. At the present time there are over two million sheep, and in no part of the world do they do better or can they be raised at less cost. The French and Spanish merino, the southdown, the cottswold, and other varieties, have been imported from the Atlantic States, France, Spain, and Australia, and prosper as well here as in their native countries. Wool is fast becoming an important article of export; over seven million pounds were shipped last year.

The culture of the grape and the manufacture of wine are rapidly growing into a large and important business, our hundreds of valleys

producing to perfection the table grape, and the mineral soil of the hill and mountain side, the wine grape. It is a well known fact that the European vineyards are fast decaying from old age and exhaustion of soil, and, as a natural consequence, the heretofore fabulous amount of grapes and wine produced in the old countries, must be transferred to other sections of the world, and where else than California can the grape be as well and as cheaply produced? The fact is already acknowledged; therefore, it behooves Californians to take advantage of the circumstance. It has been a question of much doubt with wine manufacturers in this State, whether good wine can be made from the grape raised on the adobe soil. This question has been recently settled, as far as regards one class of wine—port—which has been manufactured by West & Brothers from the grape raised near this city on the adobe soil, the wine needing only age to render it equal to the best imported.

MINERAL RESOURCES AND YIELD.

Besides the inexhaustible gold mines, which embrace over forty-four thousand square miles, minerals and metals of almost every kind have been found. Silver, copper, platina, iron, quicksilver, antimony, tin, arsenic, cobalt, manganese, lead, coal, ochres, saltpetre, in large quantities, lime, gypsum, freestone, marble, granite, borax, and brimstone, are found in quantities to supply the world. Petroleum has recently been discovered in several sections of the State, and bids fair to be of great value, thus adding another item to our wealth and commerce. The history of our gold mines is too well known to receive any more than a passing notice here. These mines are daily extending in number and wealth. The two great gold belts lying on the western slope of the Sierra Nevada Mountains, and exhausting hundreds of miles already discovered, are yielding increased amounts for the benefit of the eastern world, banks, Wall street Shylocks, and the supporters of the specific contract law. Over one billion dollars of gold have been exported since eighteen hundred and forty-six. The history of our silver mines is recent. The silver belt is on the eastern side of the Sierras, and the mines have been sufficiently tested to warrant the idea that it will require the toil and labor of thousands for generations to exhaust them. Over eighteen million dollars of silver has been manifested from Washoe since eighteen hundred and sixty, and an equal amount is supposed to have been returned for improvements and opening the mines. Side by side of the gold belts lie the richest and most extensive copper mines yet discovered. Since eighteen hundred and sixty, the time copper was discovered or attracted notice, one mine, the Union, located in Copperopolis, is now sending to the East three thousand tons per month, employs over one thousand two hundred animals to freight it to Stockton, at a cost of about thirty thousand dollars per month for freight. This mine, together with the Keystone, Calaveras, and Empire, in Copperopolis, and the Campo Seco and Copper Hill, in Campo Seco, can ship next season over twenty thousand tons per month.

MANUFACTURES.

This State, though in its infancy, can boast of many flourishing manufactories of different kinds, yet but few, if any, are producing a surplus

for exportation, excepting wine. What we need most at this time are extensive workshops for manufacturing agricultural implements and woollen fabrics. One million dollars was paid this season for the imports of agricultural implements, and still more are needed. We need woollen factories to work up the seven million pounds of wool produced the past season, which amount will be largely increased annually. The two extensive woollen manufactories in San Francisco, with a capital of one million dollars, manufacturing over two million four hundred thousand pounds of wool, employing four hundred and fifty laborers, at a cost of two hundred thousand dollars per annum, are not sufficient to supply all our wants. We are yearly importing immense quantities of woollen fabrics. If we would become rich and populous, we must save our gold by exporting manufactured goods instead of the raw material. Old England, and New England as well, exhibit this fact. They have become immensely rich by importing the raw material and exporting manufactured goods. We can compete with the world in raising wool, as our valleys and mountain sides furnish an unlimited field of pasturage for sheep, at no cost. Stockton has all the advantages necessary for woollen factories, and the one million pounds of wool produced in this section, and exported, should be converted into cloths here. This city has been since eighteen hundred and fifty, and will continue to be, the leading market and emporium of trade for this agricultural district. It has all the necessary advantages, being at the head of navigation, and soon to be connected by railroads with other sections; being in the midst, too, of a rich and productive agricultural country, near the richest and most extensive gold and copper mines yet discovered.

This city and county excels all other sections of the State in raising superior qualities of fruits and vegetables, and soon will in quantity; and also in the construction of agricultural implements and "prairie schooners" or mammoth wagons. Woollen factories should be our first and next enterprise.

The culture of cotton and rice, two great leading staples of consumption and commerce, have been sufficiently tested to warrant their culture on an extensive scale. From this county to Mexico, cotton has been raised this season enough to test perfectly the certainty that it can be raised to great perfection, and in large quantities, with a little irrigation, or half the amount that corn requires. The southern counties contain millions of acres and a climate perfectly adapted to its profitable culture.

Mr. Matthew Keller, of Los Angeles, planted this season, in March, one hundred acres. The result in production, both in quantity and quality, is a success, and has applied for the State premium for producing one hundred acres. The cost per acre in raising this cotton was not more than that of corn or cereals.

When capitalists learn that producing wool and cotton, and manufacturing them into fabrics for the six hundred million of Chinese and Japanese, instead of investing in wildcat mines and sand banks, then our State will become rich and prosperous beyond present comprehension.

EXTENT AND CAPACITY OF THE SAN JOAQUIN DISTRICT.

This agricultural district, comprising the eight counties of San Joaquin, Calaveras, Tuolumne, Stanislaus, Mariposa, Merced, Fresno, and Tulare, presents a surface of seventeen thousand seven hundred and ninety-six square miles, or eleven million three hundred and eighty-eight thousand

eight hundred acres; a larger surface than the States of Massachusetts, Rhode Island, New Jersey, Connecticut, and Vermont. Five and a half millions of acres in this district, exclusive of the hillsides, are susceptible of cultivation, and hundreds of rich alluvial valleys in the mountains, which afford rich grasses for pasturage, and a soil and climate eminently adapted to the cultivation of gardens, orchards, and vineyards, which will yet cluster on their surface. These eight counties have, as near as can be ascertained to this date, produced this season over three million bushels of wheat and barley, half a million more than was raised last year in all New England. In like proportion oats, hay, and corn, have been produced. Of stock, (eighteen hundred and sixty being the last reliable date,) this district produced a greater number than Maine and Massachusetts. In view of these facts, why should we not have superior agricultural exhibitions? Nothing but the will is wanting.

THE NEED OF IRRIGATION.

Cultivators of our soil throughout the State have found, at last, that irrigation is an absolute necessity to the production of good and profitable crops, particularly fruits and vegetables. At present it is our only fertilizer. Could this county be threaded by ditches and canals, as in Holland, and supplied by the mountain streams, the extent of increased crops would be incalculable, and the farm lands would advance in value a hundred fold. Nothing is more needed than water to make our valleys put on the gorgeous livery of perpetual spring. Our soil is deep and rich, but seven or eight months in the year of cloudless skies exhaust all the surface moisture, render the soil in the summer and fall months parched and dried up, and prevent thousands of fertile acres from producing sure and immense crops, and adding millions to our wealth, and hundreds of thousands to our population. Nature has lavishly added everything else to our glorious State but frequent rain. Capital and engineering science will yet cause the mountain rivers to be tapped and spread their waters over our broad plains. We must do here as all nations similarly situated have done since the infancy of the world—irrigate our lands by canals, ditches, and aqueducts. Some of the most costly and stupendous works which the genius and skill of man ever called into existence have been constructed for irrigation. In the old world, hundreds of millions have been expended in building canals, aqueducts, reservoirs, and fountains for irrigation. On our own continent, Mexico, Peru, and Chile, centuries ago, practiced artificial irrigation, and expended millions in perfecting this system. And why should not California commence this feasible and profitable system, which the ancients and semi-barbarous nations found so necessary and profitable? Thousands of instances could be enumerated, if time would admit, of communities which accumulated great wealth by exporting their surplus products, produced by a system of irrigation. One instance will suffice. In Lombardy and Piedmont, in Northern Italy, irrigation has been carried to a great extent. The plains of Piedmont contain one million three hundred thousand acres, and less than one million acres are susceptible of cultivation, one third of which is under irrigation. The total amount of water required amounts to eight thousand gallons per second, conducted through four thousand miles of canals, being a complete network of canals, the cost of which is over two million eight hundred thousand dollars per annum. The increased products justify this great outlay, being instrumental in developing all the resources of this country, and support a population of two

million five hundred thousand people. Lombardy practices the same system, and is equally populous and prosperous.

The mountain counties of this district have expended three million three hundred and eighty-two thousand dollars in constructing eight hundred and forty miles of ditches for mining purposes. If the same amount of money should be expended in turning the Mokelumne, Calaveras, and Stanislaus Rivers, by canals and ditches, upon the three hundred thousand acres now under cultivation in San Joaquin, would not our county become a Piedmont or a Lombardy, with this system of irrigation? Our half tilled farms would be studded with cottages and villas, and the wine press, a fountain of rural wealth, gush from every acre; while our homes would be beautiful by the surroundings of perfected fruits and flowers and bounteous crops.

RAILROADS, AND THEIR VALUE.

This city and county are soon to be benefited by railroads. The construction of the Stockton and Copperopolis Railroad is an enterprise of necessity, and its completion but a question of a short time. The Pacific Railroad, within two years, undoubtedly, will pass our doors and traverse this State. Wherever railroads cut or traverse a country, the latent resources are rapidly developed; real estate, traffic, and trade, and all interests are largely benefited. One instance of the thousands which exhibit the fact, is the wonderful growth and immense wealth of Chicago, caused almost wholly by the agricultural productions of the great West seeking this Queen City by railway communication. Heretofore agricultural productions were almost worthless, for the want of rapid and cheap transportation. In eighteen hundred and thirty-eight that city exported thirty-eight thousand bushels of wheat; in eighteen hundred and sixty-four there was exported seventeen million nine hundred and twenty-five thousand three hundred and thirty-six bushels; and of corn and all grains, fifty million five hundred and forty-eight thousand three hundred and forty-five bushels; of hogs received and slaughtered, rising one million six hundred thousand; of cattle, three hundred thousand six hundred and twenty-two head. The construction of more than three thousand five hundred miles of railroad in this State is a sufficient proof of their value and convenience. If railroads, as many say, are detrimental to a country, why has England and continental Europe expended over one billion five hundred million dollars in constructing over thirty thousand miles of railway? What would have been the condition of the Southern Confederacy, even at the commencement of the rebellion, had it been without railroad facilities to transport its arms and supplies? These are but isolated instances. Like causes produce like results. Railroads are the great physical agents of progress and civilization. It is confidently predicted that within five or six years the Pacific Railroad will be completed, and San Francisco placed within six days' travel of New York. Then, a native of the Celestial Empire can leave his rice and opium, and in twenty days by steamer be back in the fogs and mists of San Francisco; in twenty-six days can partake, in New York, of oysters and sourkrout; in thirty-six days lunch in London on plum pudding and porter; and in a few hours more dine in Paris on frogs and burgundy.

OUR EDUCATIONAL SYSTEM.

The educational system of this State is perfected by the experience of all nations. Colleges and schools are springing up all over the State, having teachers of the highest order. In the professions are found graduates from all the notable universities and schools in the Eastern States and Europe. In our workshops are found the most skillful mechanics known. California contains in her population the highest order of education, talent, refinement, and as high a civilization as is found elsewhere. As, centuries ago, the first spark of art, science, and civilization sprang from Asia, the first abode of man, and travelling the rising sun westward, accumulating, in its slow progress through the dark ages, more light and brilliancy, adding in continental Europe still a higher degree of perfection in learning and civilization; still seeking the setting sun, this increased knowledge, transported by the Mayflower to the western continent, at last, after two thousand years of progress, sought the shores of the Pacific, California, perfected in all its parts, and to day we can send missionaries to the orient, more skilled in arts, sciences, and learning, than those of any other nation.

REPORTS OF COUNTY ASSESSORS.

On the seventh day of February, eighteen hundred and sixty-five, the Secretary of the State Board of Agriculture issued and mailed to each of the County and District Assessors in the State the following circular, together with the blanks to which it refers for the collection and return of agricultural statistics. A copy of the blanks for the returns only are given here, as they contain all the names of the articles required to be collected. In response to the circular, most of the Assessors returned the statistical tables more or less completely filled, and many of them made valuable descriptive reports of their counties or districts, which are hereto appended:

ROOMS OF THE STATE AGRICULTURAL SOCIETY, }
Sacramento, February 7, 1865. }

To the Assessor of ——— County:

DEAR SIR:—The State Board of Agriculture are very desirous of obtaining through some reliable channel full and correct agricultural statistics of the State for eighteen hundred and sixty-five.

They believe there is no other way in which a citizen can render so valuable a service to the State as in aiding them in the accomplishment of this object. They also believe that the Assessors of the several districts and counties, from the nature of their duties, possess greater facilities for collecting such statistics than any other persons; and that the correct business habits necessarily possessed by a person to whom his fellow citizens have intrusted so important duties as those of Assessor will give to statistics collected by him the stamp of character and reliability. For the above reasons the Board have instructed me to request you to aid them in this undertaking. Believing that you will cheerfully consent to do so, I have carefully prepared the accompanying blanks for the collection of such statistics as are indicated in them, and those on the opposite side of this sheet for your return of the same in a condensed form to this office. None but the most important and easiest obtained are called for. The number of acres sown of the different kinds of crops, the number of trees planted of the different varieties, and so on, you can obtain very easily by fastening the collecting blanks in your assessing book which you carry with you, and questioning each party as you assess them.

The amount of the productions for eighteen hundred and sixty-five

you cannot obtain, for the reason that you will have finished your canvass before most of them will be matured and gathered. But as you are canvassing you can notice the appearance of the crops, and by conversation with farmers generally you can obtain such information as will enable you to make a very correct estimate of the average bushels of the different crops per acre, and having obtained by canvass the number of acres sown to each, you can easily estimate the whole product of your district or county. Hence the blank return sheets, in addition to the number of acres sown, call for the *estimated* products of eighteen hundred and sixty-five. It has been customary with those who have given any attention to this matter heretofore, to gather the products of the year preceding the one in which the number of acres sown or planted was gathered. We believe this custom has destroyed to a great extent the value of the tables thus formed, by apparently depreciating the productiveness of our soil, the aggregate products of such an exhibit being less, compared to the whole number of acres cultivated, than the facts would show. Our plan will correct this error, and by continuing it, we can arrive at an almost positive certainty, as next year the Assessor can gather the actual products of this, and thus test the correctness of your estimates.

The return sheet has also a place for the estimate of unenumerated productions. Your district or county may produce articles not enumerated, which you may deem important to make a record of. If so, you will enumerate and return them. There are many items, however, which we can obtain from the United States Assessors, and shall do so. We would like to have you also give a concise statement of the general resources and advantages of your county, whether agricultural, mineral, or manufacturing. All the facts thus furnished will be embodied in the reports of our transactions to the next Legislature.

Now, as to the compensation for the services we ask of you: The Board offer a premium of fifty dollars for the best statistical and descriptive report, and twenty-five dollars for the second best—the Board to be or to select the Judges, and the money to be paid as soon as the reports are received and examined. In addition to this, each Assessor who shall make a report to the Board, as requested, will be voted a member of the State Agricultural Society, and shall receive free all publications of the society, and copies of such as are received of the General Government for distribution.

The Board will also endeavor to obtain from the next Legislature, and they have no doubt they will be successful, an appropriation to pay you for the services you may perform this year, and an annual appropriation for the continuance of such services in the future.

Please acknowledge the receipt of this immediately, and say whether you will perform the duties requested, and whether you have received a copy of our transactions for eighteen hundred and sixty-three, which we mailed for you.

If you need more blanks at any time, write for them. You will find postage stamps and envelopes for your correspondence and returns inclosed.

We shall want your returns, and we presume you can make them, by the first or fifteenth of September.

By order of the Board.

Very respectfully, your obedient servant,

I. N. HOAG,
Secretary State Board of Agriculture.

[The following Report was awarded the first premium of fifty dollars.]

MONTEREY COUNTY.

W. P. McGARVEY.....County Assessor.

ASSESSOR'S OFFICE,
Monterey, Sept. 12, 1865. }

J. P. HOAG, Esq.,
Secretatary State Board of Agriculture, Sacramento :

SIR :—In accordance with the request of the State Board of Agriculture, expressed in your circular of February seventh last, I herewith forward to you the agricultural statistics of this county, with an estimate of the various products for the present year, collected by me when engaged in the performance of my official duties.

Aware of the value of a correct report on such an important subject, tending to convey useful information and be beneficial to the State at large, I have used all diligence in collecting every information I believed necessary, and have devoted thereto so much of my time as the duties of my office did permit, in order to make a return as near correct and reliable as possible. Likewise aware that my limited knowledge of agriculture did not enable me—using my own judgment—to render much service to the society in the accomplishment of the desired object, I have, in all instances of estimates of products, referred to the judgment of persons most qualified in the matter.

This county cannot furnish an interesting report on agriculture. By comparing its superficial area to the small portion of land under actual cultivation, it will readily be seen that Monterey is *not* an agricultural county, and by its geological nature it is precluded from becoming so. All the arable land not yet inclosed does not amount to twelve thousand acres; besides, a great portion of land already under fence would not be useful for tilling, and is valueless except for pasture. Outside of the Pajaro Valley, part of the Salinas Valley, a small tract in Carmelo Valley, and some isolated spots of small extent, the whole may be called grazing land. Three chains of mountains, running north and south nearly through the whole of the county, leave but narrow strips of land fit for profitable cultivation, although for grazing purposes this county is perhaps unequalled by any in the State; hence most attention is paid by its inhabitants to stockraising. My returns will, therefore, be very unimportant as compared with those of some other counties, who, possessed of great agricultural resources, are daily making valuable discoveries and improvements in all branches of husbandry, the knowledge whereof, imparted to the many, through the proper channels, is productive of real benefits; and although I have cheerfully undertaken to comply with your request in giving you all the information within my reach, I know how deficient of interest the same must unavoidably be for want of material. To my said statistical returns I will add a few remarks and observations on the resources of this county.

CROPS.

Last year, the country had a most desolate aspect, owing to the drought; the crops, with few exceptions, proved a complete failure; much land remained without ploughing, for want of sufficient moisture.

This year, the crops did look promising, especially those early put in; late crops did not do as well, owing to the absence of late rains.

Some farmers who last year put in a crop of barley, whereof scarcely anything came above ground, and who by stress of circumstances could not purchase seed for this year, left their land untilled. The seed, not having germinated last year, came up and gave a volunteer crop superior to that of some of their neighbors who had their soil ploughed up anew and sowed over again. This has been the case in most every similar instance, and has taught a lesson whereof many may avail themselves in the future.

Barley does well in Pajaro, Salinas, and Carmelo Valleys, but the heavy fogs prevailing during spring and summer, while supplying the want of rain and aiding to the growth, gives the grain a brownish color, depreciating it in the market.

The crop of wheat appeared very satisfactory; complete absence of smut. This may be accounted for by the dryness of the spring. Wheat thrives well in Pajaro and Salinas Valleys, the latter needing a wet winter, while in the Pajaro Valley too much rain will injure and cause the seed early put in to rot.

The crop of corn, beans, peas, etc., is indifferent, for lack of moisture; garden products, vegetables, etc., are below the average this year, owing to the same cause.

PASTURE

Was everywhere abundant; but it was remarked that some kinds, and among them the wild oats, did not do very well in comparison with others; probably the cause thereof is that much seed was destroyed. The grass looking most luxuriant was the alfileria, or pin grass. Bunch grass, likewise, looked better than it did for many years. This last named is mostly to be found on poor, and even stony soil, and as late pasture it ranks among the best for its nutritious qualities. Much hay having been made of wild grasses, the price of this article has much declined; at present, barley hay is sold for ten dollars per ton. In the table of statistics I have made no mention of wild grass hay.

Every year some attempts are made to raise alfalfa, or Peruvian clover, and prove failures, or nearly so, because to alfalfa, in a country having a dry season as California, periodical irrigation is indispensable; and when thus irrigated it remains always green, and grows to the height of four feet, as is the case in South America, under a similar climate to ours. When not irrigated, its growth will not exceed much that of the bur clover, and it will dry almost as soon after the rainy season is past; therefore, the opinion is prevalent that sowing alfalfa without a system of irrigation amounts to time and labor lost.

FRUIT TREES, ETC.

I have made no mention of the product of fruit trees, because I have not been able to ascertain the same. Fruit and vegetables are not raised for exportation, and but little is sent to market. I have not given much importance to those articles.

Fruit trees do not thrive well on land exposed to the cold sea breeze or fogs, therefore fruit is scarce at Monterey and in the vicinity of the sea coast; however, in some sheltered valleys, all kinds of fruit belong.

ing to a temperate climate are raised with success. A garden, eleven miles distant from Monterey City, furnishes this place and adjoining country with all kinds of melons, not inferior to any raised in this State, without the employment of any artificial means, such as irrigation, or even manure.

The old mission orchards do not produce much. The orchard of the Mission San Carlos, on the Carmelo River, is small and unimportant. San Antonio has been allowed to go to wreck for want of proper care. The orchard of the Mission San Juan alone is worth notice. I have not been able to learn the quantity of fruit the last named produces yearly. On the east slope of the Gabilan Mountain, on the farm of Mr. T. Vaché, is a vineyard and orchard of diminutive size, where, every year, some wines and brandy are made, of tolerable good quality.

TIMBER.

Although there is a great variety and abundance of timber, such as white and black oak, pine, fir, laurel, redwood, etc., the pine alone is put to some use, owing to its proximity to the place of shipment. The Monterey pine is of a hard and tough quality, very useful where strength and durability are required, such as for flooring, planking wharves and bridges, and like purposes; but similar to all wood of its kind, it may not be put in contact with the ground, and when used for piles it is not durable; the part under water is destroyed in a few years by the borer, (*Terrido Navalis*.) For spars it cannot be recommended, because it is rather knotty. Two vessels have lately been constructed out of this wood.

The only steam sawmill existing in this county, located some three or four miles from Monterey City, is of thirty horse power, and may saw seventeen thousand feet of lumber in twenty-four hours. Its operations have some time since been suspended.

Pine is also made into cord wood, for shipment. The annual export from Monterey is from fifteen thousand to twenty-five thousand cords. Redwood is found in great quantities south of Carmelo River, distant eight to fifteen miles from Monterey City; but the ravines are deep, the country very rough, and making roads in those localities for hauling timber would be rather a difficult matter. However, if this were a thriving place, there would be spirit of enterprise enough to render useful a valuable article now entirely worthless, although so near.

MINING.

During the last two years several mining claims were taken up, and at some of them active operations begun. The "Saragoza" mine, (silver,) located on the southwest part of the Gabilan range, was worked for some time; the result, although promising at the start, did not answer the expectations, and the works are at present suspended.

The "Soberana Maria," (silver,) located in the San Antonio Mountains, was worked for about eight months, proved a failure, and was abandoned.

The "Burri-Burri," (copper,) located at the southeastern termination of the Gabilan range, has been worked for a long time, abandoned once, and now again in active operation. I am not able as yet to give any correct items in regard to the results as far as experienced; the share-

holders having already made a great outlay, are confident of ultimate success.

A discovery was made a short time since in the southern part of this county, in the vicinity of Peach Tree Valley, distant about seventy-two miles from Monterey City, of a certain substance having all the appearance of coal. The specimen exhibited was shining, had the grains running horizontally, and thin layers. It was rather brittle, but whether really coal or crystallized asphaltum, has not yet been determined. Opinions differ on the subject. It has been tried in several forges with no favorable results. It must be remarked that the specimen brought for examination was said to have been taken from the surface. Should it nevertheless prove to be coal, there will be a drawback in the great distance from its locality to the place of shipment or market.

TELEGRAPH.

The State Telegraph, from Monterey to Watsonville, connecting with San Juan and San José, has about fifty-two miles of line in this county.

LIVE STOCK.

Two successive years of drought have almost swept the country clean of cattle, horses, and sheep. Out of seventy thousand head of stock cattle existing a few years ago, only twelve thousand seven hundred and twenty-four, as shown by the assessment, are left. This year the account of stock having been taken with great care, there can be no doubt in regard to the correctness of the number. The total absence of rain during the greater part of the winter of eighteen hundred and sixty-three and eighteen hundred and sixty-four, made pasture last year exceedingly scarce; its scarcity was felt as early as the month of May, when already valleys and hills were bare, and the cattle and horses left for the mountains, where, among the shrubbery, they did well during the summer, but when in the month of December they were visited by severe weather, snow, and hail, all that were not too weak moved to the valleys again, the rest, with few exceptions, died from exposure. A great number of those that had come down again to the lowlands died of starvation, or were killed by the owners in order to save the hides.

About five thousand head has been killed during last summer, at an establishment erected near Monterey, for their hides and tallow. Their average value was from two dollars to four dollars per head.

That so many cattle perished will surprise no one who saw the country during the latter part of the summer of eighteen hundred and sixty-four; it is rather a matter of surprise that so many escaped, where no vegetation proper for feed could be discerned. The remaining cattle are most all young, two and three years old. Cows with calves were the first to die. In many instances the calves were killed in order to save the cows, and but very few calves of last year are to be found. Bulls did not hold out better than other cattle; their number is also much reduced.

The common Spanish stock is fast disappearing. The twelve thousand seven hundred and twenty-four head of stock cattle remaining are classified as follows: American, one thousand seven hundred and twenty; Spanish, four thousand five hundred and thirty-three; half-breeds, six thousand four hundred and seventy-one.

Drought and its consequences have not now been seen for the first time

in California. By consulting the old Mission archives, one may readily be convinced that since the year seventeen hundred and sixty-nine, when this country was settled by the missionaries, this calamity has visited more than once Upper as well as Lower California. The Missions provided themselves against such occurrence by ever having grain laid up for two years, renewing the same every year. Often has it happened that cattle have died off at such a rate that in order to save some of them it was necessary to kill most all the horses; and on such occasions thousands of horses were slaughtered or driven down the cliffs into the sea. Fortunately this did not happen at short intervals.

This year there is such abundance of pasture that the now existing stock cannot consume it. Cattle cannot get poor next winter, unless from exposure.*

HORSES

Have held out better than cattle. Most of those surprised in the mountains by inclement weather and snow have perished, but on an average there is no comparison between the loss of horses and other stock.

The number of horses assessed this year is three thousand one hundred and fifty-eight, classified as follows:

Class.	Number.
American horses.....	89
American stallions.....	26
American mares.....	108
Spanish horses.....	1,274
Spanish mares.....	1,206
Half-breed horses.....	227
Half-breed mares.....	228
Total.....	3,158

COLTS.

American.....	88
Spanish.....	363
Half-breed.....	246
Total.....	697

SHEEP.

Of all stock, sheep thrive best in this county, which is, according to the opinion of experts, one of the best in this State for sheep raising. It is likewise the opinion of many that sheep will in a short time supersede

* Since the foregoing was written there have been very extensive fires all over the country, destroying much pasture, fencing, and some grain.

cattle, and that no effort will be made for the further increase of the latter. Under the present system, cattle for some years past have left nothing to the stock raisers but loss, and many of them have abandoned the business; some because they have lost most all their cattle, others because they lack the means to carry on the business, and not a few because they consider the cattle exposed to loss by other causes than those generally known or expressed. Sheep being ever under watch, are not exposed to similar dangers. The nature of the country, likewise, seems to be better adapted for sheep than any other stock. Before the last two years, they have always been doing well, and gradually increased. The loss of sheep from August, eighteen hundred and sixty-four, to March, eighteen hundred and sixty-five, from starvation and exposure, may be calculated at seventy-five thousand. Many sheep owners lost one half of their flocks. Part of the lambs of last year had to be killed to save the ewes. The class of sheep mostly raised in this county are the French merino and Australian sheep, crossed with American of several kinds, and the common Spanish or New Mexican. The latter, although very inferior for wool, seem to be more profitable for mutton, needing less care and capable of more endurance than the more improved kinds. The clip of wool this year has been somewhat below the average. The assessment of sheep for eighteen hundred and sixty-five has been as follows:

American.....	32,540
Spanish.....	11,670
Half-breed and improved.....	48,796
Merino ewes.....	6,791
Merino rams.....	1,360
Total.....	101,157

FISHERIES.

Two whaling companies are established on the Bay of Monterey, and one on Carmelo Bay; another company formerly established at Monterey left about a year ago. The remaining three companies number about fifty men, mostly natives of the Azores or Western Islands. Each company, when fishing, man two boats, with six men for each boat. Formerly they did a successful business, but for the last two seasons whales have been very scarce. Each company made two thousand five hundred barrels in one year, but this is no more the case, as may be seen in the table of statistics. The whales have also become so shy that they cannot be approached to use the hand harpoon or lance; every boat now is armed with the harpoon swivel and lance gun, the only implements useful. No whales have visited the bay since March last. Other fisheries have likewise been very indifferent. Mackerel have not made their appearance this year. The Bay of Monterey during the fishing season swarms with fish of a great variety of species; many of the tropical kind make it their resort during the months of August and September. Nine species of the viviparous kind are known here. I do not give a description of them, thinking this not the place or opportunity to extend on this subject.

METEOROLOGY.

Abstract of Meteorological Observations by Dr. C. A. Canfield, at the City of Monterey, from September first, eighteen hundred and sixty-four, to September first, eighteen hundred and sixty-five.

LATITUDE 36° 36'.

LONGITUDE, 121° 52'.

August.....	74	53	.....	.....	3	7
July.....	81	54	.....	0.12	3	8
June.....	89	50	.....	.....	5	
May.....	85	51	.....	0.31	6	3
April	76	44	.....	0.36	3	8
March	73	37	.....	0.31	6	10
February....	67	35	13	1.66	6	10
Jan. 1865...	63	36	11	1.94	5	8
December ...	63	34	4	3.99	1	11
November...	74	33	3	4.13	7	7
October.....	90	50	.....	0.03	3	7
Sept. 1864...	86	51	.....	.....	2	4
Greatest heat at 2 P. M., (Fahrenheit).....	.....	.....	.....	.....	.....	.....
Greatest cold from 7 A. M. to 9 P. M., (Fahrenheit) .....	.....	.....	.....	.....	.....	.....
Number of nights of frost .....	.....	.....	.....	.....	.....	.....
Amount of rain, (inches and hundredths) .....	.....	.....	.....	.....	.....	.....
Number of days without clouds.....	.....	.....	.....	.....	.....	.....
Number of days completely clouded .....	.....	.....	.....	.....	.....	.....

ASSESSMENT OF 1865-'66.

Class of property.	Value.
Value of real estate.....	\$464,162 40
Value of improvements	147,058 30
Value of personal property.....	454,063 73
Total value of property assessed.....	\$1,065,284 43
Deducted for widows and minors.....	15,000 00
Value of taxable property.....	\$1,050,284 43

Having embodied in the foregoing description of the resources of this county all which I considered of any interest to the society, and whereof I have any personal knowledge, I submit the same, and remain,

Respectfully your obedient servant,

W. P. McGARVEY,
Assessor Monterey County.

SISKIYOU COUNTY.

D. C. STEVENS.....County Assessor.

ASSESSOR'S OFFICE,
Siskiyou County, November, 1865. }

I. N. HOAG,
Secretary State Board of Agriculture :

DEAR SIR:—Your letter of October twenty-eighth has been received, and I would say that as the assessment was not finished until after the first of September, the time that you wished the report, it could not well be returned until now. In making out a general report it will be difficult to mention all matters of interest in detail without making this communication much longer than desirable.

Siskiyou is a large county, and its wealth was never on a more sure foundation than at present; and it is nowhere more noticeable than in the manner in which farmers are improving their farms by erecting comfortable houses and large and commodious barns, as well as planting many fruit and ornamental trees, a matter that was much neglected by the earlier settlers.

The climate in this county cannot be excelled; the valleys are productive, and there never has been a time that the farmer has not been well remunerated for his labor. The number of acres of grain you will find in the table, also the estimated yield.

There have been a great many fruit trees planted the present year, and orchards that have age, have borne well. There are nurseries in the county, affording trees at a reasonable rate. There were about seven thousand bushels of apples raised the present year. But few vines have been planted, but sufficient to know that they can be cultivated with success. One man made one hundred and twenty gallons of wine, and had grapes of a superior quality.

As a stock raising county, there are few better. The early spring and summer are not hot enough to burn up the grass, while there is not snow enough in winter to prevent stock from doing well, without feed. Siskiyou has probably lost as few cattle by hard winters as any county in the State. While cattle were starving from the effects of the drought, last summer, and perishing in the winter storms in many other counties, they were driven from here to the San Francisco market for beef. Stock demands a good price, and pays better than it has for years. We have excellent gristmills, enough to grind all the grain raised in the county; also sawmills, to furnish lumber at reasonable prices. Butter and cheese demand a good price, and farmers may be considered as doing well.

Mining interests, while holding their own with any part of the State, are far from what they were formerly. The improved hydraulic machinery for working the placer diggings, which enables the miners to work such a large space of ground in a season, has had the effect to rapidly deplete the mines. The yield of dust is about one hundred thousand dollars per month, in the county. The diggings are generally shallow, and easily worked. The Klamath and Scott Rivers have in their beds an inexhaustible amount of wealth, but the rapid current and sudden floods in the streams renders the river mining a dangerous and uncertain business. Quartz mining in Siskiyou, taken altogether, may be regarded as a failure. Numerous "leads" have been "struck," and "feet" innumerable have been "sold;" a few companies have succeeded in doing a good business in some instances, for a time, but at present all, or nearly all, have suspended operations. That there is plenty of good quartz in this county, is a fact beyond controversy, but at the present price of labor, it is difficult to work it to advantage.

Regretting that my report is so limited,

I remain, as ever, yours truly,

D. C. STEVENS,
County Assessor.

By E. B. Edson, Deputy.

SAN DIEGO COUNTY.

JOHN L. McINTIER.....County Assessor.

ASSESSOR'S OFFICE,
San Diego County, October 6th, 1865. }

I. N. HOAG, Esq.,
Secretary State Agricultural Society, Sacramento:

SIR:—Herewith I submit my report as Assessor of San Diego County. The land of this county, with few exceptions, is generally adapted to

grazing purposes. There are a few intervening valleys of excellent agricultural land, which, so far as cultivated, have produced equal to anything in the State. The low price which agricultural products now command, and the distance of the county from the principal markets, have had a tendency to retard agricultural pursuits; and much land that might be advantageously cultivated is now left for the free use of stock.

The interior or mountainous district of the county is generally well timbered—chiefly oak. In the neighborhood of San Ysabel are fine pineries—sufficient to supply for many years all the timber that may be required for building or for purposes of internal improvements.

The accompanying schedule shows the various agricultural products of the county; also, its fruit trees and vines, live stock, etc.

Hoping the report will meet with your approbation,

I remain your obedient servant,

JOHN L. McINTIER,
Assessor of San Diego County.

SOLANO COUNTY.

R. W. PARKER.....County Assessor.

ASSESSOR'S OFFICE,
Suisun City, September 15th, 1865. }

I. N. HOAG, Esq.,
Secretary of the State Board of Agriculture:

DEAR SIR:—Inclosed you have my report, which I am sorry was not transmitted before this. However, I hope it may reach you in time. The report is as correct as I could make it, and hope that it will meet your approval.

AGRICULTURE—WORKING OF SOIL.

The soil of this county is probably as rich in all the essential elements necessary for the production of cereal crops as any other in the State. More attention is given to improved methods of cultivating the soil, and all the agricultural implements of modern invention and improvements are coming generally into use. Deep ploughing is approved, and generally practised by the farmers, and husbandmen generally approve the practice of planting their crops on fallow land. This method of cultivating facilitates the early sowing of seed, extending to the crops all the benefits afforded by time, before the dry weather of early summer sets in. The agricultural productions of the county mainly consist of wheat and barley. A greater number of acres have been devoted to the cultivation of wheat this year than formerly. Forty-four thousand four hundred and thirty acres have been sown in wheat, which produced one million five hundred and fifty-five thousand and eighty bushels. The amount in barley was twenty-seven thousand six hundred and fifty-four

acres, which produced one million one hundred and six thousand one hundred and sixty bushels.

The cultivation of oats, rye, corn, buckwheat, peas, and beans, has been very limited. The cultivation of potatoes has been more extended. The amount raised on one hundred and fifty acres is twenty-two thousand five hundred bushels. But the schedule of compiled statistics accompanying this paper will show you the various agricultural products, number of live stock, vines, and fruit trees, etc.

TOBACCO.

But a limited attempt has been made to cultivate tobacco. It is behind. The growth could be made very remunerative. The only drawback to its extended production is the want of manufacturing facilities.

BROOM CORN.

Although the quantity is but light, a very superior article of broom corn has been raised the past season, such as manufacturers of brooms are anxious to obtain. Some sixty acres of land only have been planted in this article, and it yields so good a return for the labor used that there is but little doubt its cultivation will be greatly increased the coming year.

FRUIT TREES AND VINES.

Of the production of our orchards and vineyards, but little can be said. There has been a gradual increase in some, and a falling off in other products of the orchards, while the vines are annually increasing in number, and the wine made will soon be in quantities sufficient to give employment to the several transportation lines, while the quality of wine will bear favorable comparison with much that is brought from abroad.

LIVE STOCK.

There has been a considerable falling off in horses, cattle, sheep, and hogs, in the last two years, partly on account of dry seasons, but mostly on account of the fence law. The farmers are improving their stock in this county as fast as practicable.

TULE LAND.

I think the tule land in this county will take the lead of all others. There is about eight hundred acres of tule land under cultivation in this county, which produces from two to three crops per year as follows: one crop of grain, one crop of onions, and one crop of late potatoes. B. F. Lee, of Rio Vista, had one hundred acres of tule land in last year, which yielded him one hundred and twenty bushels per acre. Two years hence we will have five thousand acres of the same kind of land under cultivation, that will yield the same.

Hoping the report will meet your approbation, I have the pleasure to subscribe myself,

Your obedient servant,

R. W. PARKER,
Assessor.

LAKE COUNTY.

NICHOLAS PHELAN.....County Assessor.

ASSESSOR'S OFFICE, October 3d, 1863.

I. N. HOAG, Esq.,
Secretary State Board of Agriculture:

SIR:—I herewith transmit the statistics you requested me to collect for the Board. I shall make but few remarks on this county. We are blessed with a healthy climate. Such a thing as fever and ague is not known here. There are situated in our limits some of the finest medicinal springs in the world. Among them, I may mention the hot springs in Seigler Valley, owned by Dr. J. T. Boone. Also the Harbin Springs, of the same character, some eight miles east of Seigler Valley. We have also some rich ledges of copper, but for the want of capital, we cannot give them a thorough prospecting. Then there is the celebrated quicksilver mine, near the east end of the county. It is said that it produces annually three hundred and twelve thousand dollars worth of silver. It is known as the Knoxville Mine, and employs about forty workmen the year round.

The celebrated Borax Lake is situated in the centre of the county. I could not learn what amount of borax is taken out annually, but the quantity is constantly on the increase. The beautiful sheet of water known as Clear Lake is some twelve miles wide and thirty miles long, and is surrounded with rich farms. There is one thing more I wish to mention. It is this, that the people of Lake County have never failed to raise good crops since the county was first settled. I have no doubt this county will in time become one of the richest counties, compared to its size, in the State. All we want is capital and labor to develop our mineral wealth and to properly cultivate our agricultural lands. The principal productions of the county are wheat, barley, corn, beef cattle, cheese, butter, and eggs. All the surplus grain is fed to hogs and cattle, and thus driven to market on legs. Very few vegetables more than each family wants to use, are raised. I would also state that this has been an excellent year for the honey bee in this county.

All of which is respectfully submitted by your obedient servant,

NICHOLAS PHELAN,
County Assessor.

SANTA CLARA COUNTY.

D. M. HARWOOD.....County Assessor.

ASSESSOR'S OFFICE,
San José, September 5th, 1855. }

I. N. HOAG, Esq.,
Secretary State Board of Agriculture:

DEAR SIR:—Inclosed please find my statistical report for the year eighteen hundred and sixty-five.

LIVE STOCK.

There are less now in the county than previous to last year; but the destruction of stock has caused the remaining portion to bear much better prices than heretofore obtainable.

AGRICULTURE.

There is a steadily growing interest. There is in this county a large proportion of arable land, which, in favorable seasons, produces most abundantly of the cereal crops. Much has been gained in the past few years by irrigation—in some cases by turning the channels of streams, while others have obtained sufficient to irrigate many acres from artesian wells, of which there are a number in that part of the valley where they can be easily procured; but the latter course has a very injurious effect upon the dryer portions by drawing from surface wells and from springs in the mountains.

In fruit and vine growing, especially in the latter, there is a fast increasing interest. It has been ascertained that the climate of this valley is as well adapted to the culture of the vine as any locality in the State, and more especially the lands near the foothills and near the mountains, where there is a belt of land covered with a stunted growth of oak, the soil of which is a red clay mixed with gravel, which, it is found, produces a much superior wine to the rich black lands of the main valley; and, so far as tested, has proved a remarkable success.

In regard to minerals we have not much to boast, except quicksilver and copper. There are in this county some very good, and to all appearance, permanent mines of cinnabar, the first and foremost of which is the New Almaden, now owned by the Quicksilver Mining Company of Pennsylvania, for which they paid the modest sum of one million seven hundred and fifty thousand dollars. The Guadalupe Mine, situated about four miles from New Almaden, and ten miles from San José, owned by a New York company, is turning out some rich ore, under the able superintendence of Dr. J. E. Mayo, which ore was lately struck in their sixth level, four hundred feet below the bed of the creek. Another mine of cinnabar has lately been discovered in the hills ten miles southeast from San José, where the company have an exhibit of a large mass of fifty per cent ore.

COPPER.

There are several mines being opened, of which the Margarita stands first and foremost; they have a solid well defined lode of twenty-five to fifty per cent ore. It is located near the New Almaden Quicksilver Mine.

COAL AND PETROLEUM.

There is also something being done in these articles. Several wells are in process of "going down," with flattering prospects in some cases.

MINERAL SPRINGS.

There are two that have been well tested and found to contain medi-

cial properties favorable to the relief of many of the various diseases to which the human body is subject.

All of which is respectfully submitted.

Your obedient servant,

D. M. HARWOOD,
Assessor Santa Clara County.

SANTA CRUZ COUNTY.

N. TAYLOR County Assessor.

ASSESSOR'S OFFICE, Santa Cruz.

I. N. HOAG, Esq.,
Secretary State Board of Agriculture:

DEAR SIR:—I herewith send you the statistics of this county, as I have been able to collect them while assessing. The value of an exhibit of the productions of the country seems to be very little thought of, or at least not very much appreciated, and consequently a good deal of guesswork has to be done in order to arrive at anything definite.

The resources of this county are derived from agriculture, grazing, lumbering, and manufactures.

The area for agricultural purposes is somewhat limited, lying between the shores of Monterey Bay and the foothills, except the Pajaro Valley, which has a large scope of rich alluvial bottom lands, returning large yields of wheat, barley, oats, potatoes, and beans, etc.; also many small valleys, running into the foothills and scattered through the mountains, of exceeding richness. The last winter was unfavorable for ploughing and sowing in season, being too wet about the usual time of sowing; and an unusual amount of north wind, with cold, frosty nights, made the season very late. Although a larger breadth being sown this year, I think the amount of cereals will be about equal to former years.

The grazing portion of the county is chiefly in the mountains and foothills, and being more or less covered with timber and brush, does not furnish a great deal of pasture; but the mountains in Pajaro and Pescadero are open, and furnish an abundance of pasture. In Pescadero, the grazing extends to the shore of the ocean, and several large cheese and butter dairies are successfully carried on.

The lumbering interests extend the length of the county, but at present are confined to the streams. There are large bodies of redwood not as yet accessible. When needed, the indomitable energy of our lumbermen will make roads into them. Several shingle machines are attached to the sawmills, with a capacity for making twenty thousand shingles per day; also, planing, tongue and groove, lath, and stave machines. I estimate the lumber sawed to be ten million five hundred thousand feet per season.

The manufactures are principally located at Santa Cruz and vicinity, consisting of leather, lime, paper, powder, glue, and soap.

The powder mill makes on an average four thousand kegs, of twenty-five pounds each, per month.

The paper mill turns out some eighteen hundred reams straw wrapping, and twenty-four thousand pounds printing paper per month, and some other kinds of paper.

The soap and glue is manufactured by the proprietor, and not a very large amount is made, but of a superior quality.

The amount of leather manufactured monthly is about sixty thousand pounds, of different kinds.

I remain, yours, etc.,

N. TAYLOR,
Assessor Santa Cruz County.

PLUMAS COUNTY.

A. D. HALSTED.....County Assessor.

ASSESSOR'S OFFICE, }
Quincy, November 13th, 1865. }

I. N. HOAG, Esq.,
Secretary State Board of Agriculture:

DEAR SIR:—Inclosed please find my statistical report to the State Board of Agriculture. It is not as full as I would like, but it is almost impossible to gather anything like a correct report. In making my rounds, I have to guess at a great deal of the value of property and statistics, and come as near as I can. Outside of grazing, this is not much of an agricultural county. We have Humbug, Butte, Beckwith, Clover, Mohawk, Indian, and American Valleys; the two latter are well cultivated. About all the grain and vegetables produced in the county are raised in these two valleys. The other valleys are all claimed, and held for hay and grazing land. The Big Meadows is also a large valley situated in this county, and is principally used for hay and grazing. There are probably from thirty thousand to forty thousand acres of good grazing land in this county unclaimed and unoccupied. There is a great deal of stock kept here through the summer that is owned in the lower counties. Last year this county saved the lives of thousands of stock from the lower counties, driven here to escape the drought.

Strictly speaking, this is a mineral or mining county, and in two or three years more, may be one of the richest mining counties in the State. The most celebrated of our mines are Crescent, McClellan, Premium, Waterworth, Willis, Ellis, and Round Valley quartz lodes, all gold bearing, and all paying lodes, and situated in the immediate vicinity of Indian Valley. The Crescent is one of the best mines in the State. Last year, with a twenty-four stamp mill, the company cleared over one hundred thousand dollars. The company have just completed a new thirty-two stamp mill, that is said to be one of the best in the State. They are running fifty-two stamps now, and are taking out the gold very rapidly. In the southeast part of the county we have the Mammoth, Eureka, and '76 lodes, all paying well, especially the Mammoth and Eureka.

Within the last ten days there has been a rich gold bearing quartz lode discovered in Mohawk Valley, near Sulphur Spring Ranch, twenty-eight miles east of Quincy.

The placer and hydraulic mines are in a flourishing condition; among the best are Sawpit Flat, Dutch Hill, Red Rock, North Fork, East Branch, and Feather River. In Genesee Valley, six miles east of Indian Valley, are some copper mines that are attracting considerable attention. Among the best are the Green Sulphur, Mineral Point, Plumas, Summit, Metropolitan, and Cosmopolitan, and several others of less note, that will undoubtedly be valuable when more developed. There has been more work done on the Cosmopolitan than on any of the other copper mines in the county. The smelting works for reducing copper, located in the Genesee Valley, are working very successfully, and turning out large quantities of pure copper. Last week they turned out one pig of pure copper that weighed over six hundred pounds. The Cosmopolitan Copper Mine, in Genesee Valley, was sold last month to Goza & Shetton, of Nevada, for the sum of one hundred and fifty thousand dollars, gold coin.

Financially, our county is all right. Our county scrip is worth ninety-five cents on the dollar. In the last three years we have paid an indebtedness of thirty-one thousand dollars, and built a County Jail at a cost of fourteen thousand dollars; and for the credit of the morals of the people, I will state that there has not been a prisoner in it the last six months. The taxes now due the county will more than pay off her indebtedness, when collected. The assessment for eighteen hundred and sixty-five is one hundred and thirty thousand dollars more than for eighteen hundred and sixty-four. The total assessment for the year is one million eighty-five thousand nine hundred and thirty-four dollars:

Personal property.....	\$602,389
Real property	483,545
Total.....	\$1,085,934

If you want any further information at any time, I shall be glad to render it, if I can.

Respectfully, yours, etc.,

A. D. HALSTED,
Assessor Plumas County.

CALAVERAS COUNTY.

S. W. BRIGGS.....Township Assessor.

I. N. HOAG, Esq.,
Secretary State Board of Agriculture:

DEAR SIR:—Inclosed in accompanying letter please find tabular statistics of the Seventh Township of Calaveras County. The estimated

products for this year are, I think, as near correct as can be ascertained. In the hay crop, which is the principal agricultural product of the township, there is a falling off this year of near two thirds from the yield of former years. This is owing, in a great measure, to the cold, dry winds which prevailed during the greater part of the months of March and April; and in some instances ranchmen were unable to obtain seed, by reason of the high price; consequently not so much was sown as usual. But a small portion of the township is adapted to growing the grape, which is cultivated principally by Italians, who seem to understand the business better than Americans. The wine they produce is of an inferior quality, such as is mostly used by the lower classes of working Italians. The climate of a great portion of the township is well suited to growing apples, but the soil is of such an inferior quality that it requires a great deal of labor to prepare it for the growth of trees; hence we have but few bearing orchards of any importance. Peaches, and the less hardy fruits, cannot be relied on; the late frosts of spring generally blast them.

Our quartz mines are mostly worked by individuals. But few large companies are at present operating in the township, and but few large or permanent ledges have been "struck." The principal quartz district is West Point, where the ledges are small, and do not extend to a greater depth than eighty or one hundred feet. The impression prevails among practical miners that our quartz ledges, if sunk on to the depth of two or three hundred feet, would "come in" to large and permanent ledges, and the yield from them be equal to any in the State. These ledges are worked by individual enterprise, and the quartz from them obtained crushed on the custom mills in the district. The old fashioned Mexican arastra process seems to be preferred by a majority of the miners, and in many instances the yield from the quartz is very great, frequently as high as two hundred dollars per ton. However, this class of rock is not usually found in large quantities.

The number of live stock returned is what is actually kept in the township for domestic purposes. Large numbers of cattle are, during the summer months, grazed in our township, and returned to the counties below during the winter season. These I have not estimated, as they are invariably assessed in the counties where their owners have ranches and are permanently located.

The principal placer mining district in the township is in the vicinity of El Dorado and Mountain Ranch, along the limestone or marble formation, but owing to the scarcity of water, miners are unable to do but little, except during the winter months.

Very respectfully, yours,

S. W. BRIGGS,

Assessor in and for the Seventh Township, Calaveras County.

CHARLES A. CURTIS.....Assessor Ninth Township.

ASSESSOR'S OFFICE OF THE NINTH TOWNSHIP,
Murphy's, August 30, 1865. }

I. N. HOAG, Esq.,
Secretary State Board of Agriculture:

DEAR SIR:—Please find my statistical report inclosed. I will remark that the Ninth Township of Calaveras County is located in the northeast corner of the county, and is about thirty-five miles long by twelve miles wide. The principal business carried on is mining. The chief products are hay, fruit, and vegetables. The principal towns are: Murphy's, with a population of about eight hundred, and Vallecito, with about four hundred inhabitants. The general character of the country is mountainous, with a large amount of fine timber land. The famous Big Tree Grove is likewise situated in the northeast end of the township, at an elevation of two thousand five hundred feet above the level of the sea, and distant from Murphy's fourteen miles, over one of the finest roads in California.*

Respectfully submitted,

CHARLES A. CURTIS,
Assessor Ninth Township.

PLACER COUNTY.

W. VAN VACTOR.....County Assessor.

ASSESSOR'S OFFICE, DISTRICT No. 3,
Iowa Hill, September 13th, 1865. }

I. N. HOAG, Esq.,
Secretary State Board of Agriculture:

SIR:—As a descriptive report of my district, I would submit the following brief statement:

*In the proceedings of the California Academy of Natural Sciences of July third, eighteen hundred and sixty-five, I find the following scientific measurement of these famous "Big Trees," which cannot fail to be of interest in all parts of the world; and I give it an insertion here as an appropriate place.—[HOAG, Secretary.

"Dr. C. T. Jackson read the following paper relative to the

"BIG TREES OF CALAVERAS COUNTY:

"Measurement of the height and circumference of twenty-five of the 'Big Trees' (sequoia gigantea) in Calaveras County, by Dr. Charles T. Jackson, and Mr. Joseph B. Meader, August second and third, eighteen hundred and sixty-five.

"Instruments made use of:

- "1. Sir H. Douglass' Reflecting Semicircle (Cary);
- "2. A Reflecting Level, made by J. H. Temple, of Boston;
- "3. A common Measuring Tape.

"The horizontal point was fixed upon each tree, and the angle measured by the reflecting semicircle, and protracted by it.

The Third Revenue District comprises that portion of Placer County situated between the Middle and North Forks of the American River, extending in length from the junction of these branches to the State line at Lake Tahoe, a distance of about eighty miles, the average width being about twenty miles. Its surface is uneven, being that of one main divide, having a general descent from what is known as the second summit of the Sierra Nevadas to the junction of the above named rivers, divided as it approaches its southern extremity into some four minor parallel ridges by deep and craggy cañons. These ridges, together with the northern end of the main divide, are again carved by numerous ravines, putting into the rivers on either side, or into the cañons that penetrate the main divide. There is also a small portion of the district that falls off from the summit to the State line.

These ridges and hillsides are covered with a splendid growth of pine timber, furnishing the miners with an abundant supply of excellent lumber.

Mineral is the chief resource, this region being the most abundant gold producing section in this county. Gold, as yet, is the only mineral product of consequence, though I have no doubt that in time silver mining

"The circumference of the trees was measured above the swell of the roots, about six feet, where the stem takes its proper form.

"Several measurements, originally made with too high an angle, were taken over again with a longer base, so as to avoid the error of refraction in the glasses of the mirrors.

"We trust, therefore, that the following measurements will be found to be correct:

Name of Tree.	Height. Feet.	Circum. Feet.
Arbor Vitæ Queen.....	258	31
Pride of the Forest.....	280	50
Andrew Johnson.....	273	32
Bay State.....	280	48
Edward Everett.....	265	46
Henry W. Beecher.....	291	45
William C. Bryant.....	305	49
Abraham Lincoln.....	281	44
Mother of the Forest.....	305	63
Daniel Webster.....	270	49
General Jackson.....	320	42
General Scott.....	327	45
General Washington.....	254	52
Beauty of the Forest.....	258	.....
Two Sentinels.....	315	.....
Old Kentucky.....	277	45
Mother and Son.....	269	64
T. Starr King.....	366	50
Trinity.....	308	48
Salem Witch.....	310	.....
Henry Clay.....	241	44
Empire State.....	275	50
Vermont.....	259	44
Granite State.....	286	50
John Torrey (Nobis).....	.....	50
(All the above named trees are the <i>Sequoia Gigantea</i> .)		
A Sugar Pine (<i>P. Lambertiana</i>).....	165	.....
A Yellow Pine (<i>P. Engelmann</i>).....	232	27
Another of same species.....	220	19

"The stump of the "Original Big Tree" measured in six diameters gives for mean, twenty-three feet one and one third inches diameter inside of the bark, which was two feet thick."

will also be successfully carried on. Quite a number of ledges containing silver have already been discovered in different parts of the district. Heretofore gold mining has been confined to the one branch, viz: placer mining. All attempts at quartz mining, up to a few months back, have been unsuccessful; but I am satisfied from recent discoveries of rich gold bearing quartz ledges in the northern part of the district, that quartz mining is, within a very short time, destined to become a very important branch also.

There is but a small portion of the district that affords any great advantages for agriculture, though the land now under cultivation, as a general thing, produces well. This branch of industry, however, is entirely dependent upon the mines, and cannot, in my opinion, expand beyond a supply for the mining population.

W. VAN VACTOR,
Assessor Revenue District No. 3.

ALAMEDA COUNTY.

H. W. CRABB.....Assessor Eden Township.

ASSESSOR'S OFFICE,
San Lorenzo, August 25th, 1865. }

I. N. HOAG, Esq.,
Secretary State Board of Agriculture:

DEAR SIR:—Eden Township is an agricultural district, and that portion lying between the bay and the foothills (embracing about twelve thousand acres) for location and quality is second to none in the State, being a black, strong, rich soil, and is naturally adapted to the production of barley, yielding from forty to seventy-five, and in some instances one hundred bushels per acre; fifty is a low average. Wheat is not as certain a crop as barley, and yields from twenty to fifty bushels per acre. The late apple crop is less than half that of last year, being destroyed by worms eating up the foliage, and then the apple about the stem till it falls. About eighteen acres of cucumbers are grown in this district, and about twenty-six in Brooklyn, yielding in each case about one hundred and twenty-five sacks of one hundred pounds each per acre, and are manufactured by one or two firms in San Francisco into pickles. Large quantities of salt are manufactured along the shore of the bay in natural ponds, which are allowed to fill up at high tide, and by means of floodgates the water is retained there until it is evaporated. The sheet of salt left on the bottom is then gathered into piles, and after sufficient drainage, is sacked and shipped to market.

Yours,

H. W. CRABB,
Assessor Eden Township.

[The following report was awarded the second premium of twenty-five dollars.]

TUOLUMNE COUNTY.

THOMAS C. BIRNEY.....Assessor.

ASSESSOR'S OFFICE, District No. 2.

I. N. HOAG, Esq.,
Secretary of the State Board of Agriculture:

DEAR SIR:—I herewith transmit to you a table of statistics of District No. 2, Tuolumne County. With a desire to contribute what may be in my power, I shall most cheerfully comply with the request of the Secretary of the State Board, to furnish such information as is contemplated in the circular forwarded to me with the tabular blank sheet.

It is a matter of history most creditable in our State legislative enactments, that early measures were taken by the State authorities to develop the agricultural resources of this commonwealth; and the honor of initiating efficient measures on this subject is no less due to the efforts of scientific men engaged in the undertaking, than to the legislative authorities that commenced the work of so noble an enterprise. In making this report it is proper to state that my opportunities have been more limited than I could have wished, to do justice to the several subjects contemplated in your circular, touching the general resources of the district and county, agricultural, mineral, and manufacturing. The County of Tuolumne is probably surpassed by few in the State in the elements of permanent wealth. Labor and investment have heretofore been richly rewarded. Placer diggings have equalled those of any other portion of the State, and are at the present time wrought with such success as invites the miner to renewed efforts, though it is true that the auriferous earth has been thoroughly explored and wrought to a much greater profit heretofore, than at the present time. But quartz mining is now just commencing its successful operation and development. The auriferous quartz in this county, and to a considerable extent in this district, is as rich and productive as in any other portion of the State, and some of the veins are scarcely equalled by those of any other in the State. Success has attended the labors of those who have opened and wrought the auriferous rock, and has stimulated the most active efforts of prospectors to make new discoveries in the quartz, and these efforts have been such as to most reasonably satisfy those who have engaged in this laborious pursuit.

The water power in this district is all that could be desired for the purposes of irrigation or mining, and, to a considerable degree, for lumbering. So plentiful are the sources of supply that almost any amount can be appropriated for irrigation, a fact that, at no distant day, will make certain agricultural pursuits some of the chief objects of labor in this district, particularly gardening and the production of fruits, of which many of them will be sources of profit, as well as articles of luxury. Investment in the productive foothills of this district, for grape growing and wine manufacture, will, it is believed, be a source of permanent wealth. These foothills have been shown by abundant experiments to be a peculiarly excellent soil for the grape, as well as for other fruits growing in a climate like ours. The richest and most choice varieties of the grape flourish luxuriantly on the hillsides of our district, and in other districts of our county; and it requires only capital, and a knowl-

edge of grape growing and wine manufacture, to make the produce of our fields rival those of the most favored regions of any other portion of the globe.

Grape culture is becoming a most essential object in all our gardens and ranches, and choice selections and varieties are being made with care and attention to the richer and more productive varieties. To give some idea of the varieties and choice selections of the grape in this district, I furnish you with a portion of the best, cultivated in a considerable number of the ranches in this district:

Parsons & Brothers, of Columbia, have a ranch of twelve acres, and their vines, a larger portion of them, are of the Mission, or Los Angeles variety, which has a reputation of uniformly being a good and regular bearer in all the vineyards I have visited. Several other varieties are also cultivated on this ranch.

The Black Hamburg—a grape number one, of large size and of most luscious flavor; universally esteemed; a good bearer, uniformly.

Reine de Nice—a very superior grape for the table, and a good and regular bearer.

Black Prince—very highly esteemed, more hardy than the Black Hamburg, bearing profusely with the easiest culture; uniformly a good bearer.

Black Morocco—pulpy and delicious, sweet and rich; a first rate bearer.

Black Ferrara—a late grape, very pulpy, fine and hard; good for brandy.

Catawba—an excellent native, is one of the hardiest and most excellent of the native grapes, either for wine or table use.

Isabella—highly esteemed, juicy, sweet, and rich, with slight musky aroma; flesh tender, with some pulp; a good bearer, uniformly.

White Nice—large, showy fruit; bunches large, flesh crisp, sweet and very pulpy, and of good flavor, and one of the finest and largest of grapes; some of the bunches weigh from eight to nine pounds.

Muscat of Alexandria—a very large, delicious grape, flesh firm and crisp, with a peculiarly rich, musky, perfumed flavor. It is a strong grower, and the grapes will hang a long time on the vines.

White Chasselas—a sweet, juicy grape, flesh tender, excellent for table use.

Red Chasselas—a very delicious grape; much resembles the white.

Grizzly Frontignan—a rich, delicious grape, hardy, and uniformly productive.

Syrian—supposed to be the grape of Eschol, mentioned in the scriptures; bunches are large; a superb looking fruit.

White Sweetwater—an early grape, flesh crisp and watery; sweet, and excellent for table use.

Musk Chasselas—a very delicious grape; flesh tender, with abundant juice, having a rich musky flavor; skin thin, and of a yellowish white.

Rose Chasselas—a reddish musk grape, tender and sweet, and very good for table use.

Parsons & Brothers have also a great variety of peaches—Early Tillotston, Early York, Honest John, Early Crawford, Late Crawford, George IV, White Herefordshire, Oldmixon Free, Oldmixon Cling, Blood Free-stone, Chinese Peach, Heath's Cling, and Burgon's Yellow—thirteen varieties.

Pears—Bloodgood, English Gargonelle, Early Madeleine, Early Catherine, Beurre Bosc, Beurre Diel, Beurre Easter, Early Bergamot, Seckel,

White Doyenne, Duchess de Angouleme, Flemish Beauty, Louise Bonne de Jersey, Morris White, Urbaniste, Bartlett, Glout Morceau, Passe Colmar, Vicar of Winkfield, Winter Nelis, Winter Belle—twenty-two varieties.

Cherries—Mayduke, May Biggereau, Blackheart, Black Tartarian, Black Eagle, Early Whiteheart, Oxheart, Belle Magnifique—eight varieties.

Apples—Esopus Spitzenburg, Baldwin, Norton's Mellon, Vandevere, White Pearmain, Red Pearmain, Newton Pippin, American Pippin, Rhode Island Greening, Yellow Belfleur, White Belfleur, Winesap, Sap de Vine, Wine Apple, Roxbury Russett, Northern Spy, Hubbardston Nonesuch, Rambo, Talpehawken, Gloria Mundi, Swaar, Red June, Early Strawberry, Summer Rose, Red Astrachan, Gravenstein, Early Harvest, Golden Sweet, Sweet Bough—twenty-nine varieties.

Plums—Black Gage, Green Gage, Jefferson, Imperial Diadem, Lawrence Favorite, Washington, Columbia, Bradshaw, Blue Damson, Royal Diadem—ten varieties.

Quinces, two varieties—orange and one other; four varieties of apricots; several pomegranates; myrtles; four figtrees, blue and black figs; twelve thousand vines; twelve hundred apple trees, two hundred peach trees; fifty plum trees. The proprietors of this ranch manufacture both wine and brandy.

V. Hahn, Columbia, has a highly cultivated ranch of between three and four acres. Vines, five hundred; apple trees, four hundred; pear trees, one hundred and fifty; peach trees, one hundred; plums, some excellent varieties. Mr. Hahn's fruit trees are all of choice selections. List of apples—Early Harvest, Early June, Early Strawberry, Red Astrachan, Gravenstein, Sweet Bough—summer fruit. Winter fruit—Rhode Island Greening, Wine Sap, Swaar, Vandevere, Rambo, Esopus Spitzenburg, Baldwin, Yellow Belfleur, Roxbury Russett, White Winter Pearmain, Yellow Newton Pippin, Golden Russett, Tollman Sweeting, Alexandria, Northern Spy—twenty-one varieties. Pears—Summer fruit—White Doyenne, Dearborn's Seedling, Early Madeleine, Early Catharine, Summer Doyenne, Lyon's Bartlett, Flemish, President, Flemish Beauty—eight. Autumn varieties, five—Seckel, Orange Bergamot, Belle Lucrative, Dunmore, Duchess de Angouleme. Winter varieties, six—Winter Nelis, Easter Beurre, Vicar of Winkfield, Beurre Diel, Passe Colmar, Glout Morceau—total, nineteen varieties. Grapes, twelve varieties—Mission, or California, Isabella, Catawba, White Chasselas, Black Hamburg, Black Morocco, White Muscat of Alexandria, Black Muscat of Alexandria, Black Prince, Reine de Nice, Musk Chasselas, Rose Chasselas. Peaches, twelve varieties—Early Crawford, George the Fourth, Late Crawford, Early York, Early Tillotson, Royal Kensington, Fitzhugh Cling, Heath Cling, White Herefordshire, Morris White, Walter's Early, Early New England. Plums, nine varieties—Bradshaw, Imperial Gage, Green Gage, Duane's Purple, Imperial Diadem, Yellow Magnum Bonum, Red Magnum Bonum, Smith's Orleans, Blue Damson.

J. K. and P. M. Trask, Gold Springs. Ranch, fifteen acres—fifteen thousand vines, most of them of the Los Angeles variety. One thousand Reine de Nice, five hundred Black Frontignan, one hundred White Frontignan, two to three hundred Black Hamburg, three hundred White Chasselas, a few Governor Clinton and Isabella, one hundred White Syrian; apple trees, two hundred; peach, two hundred; pear, one hundred; plums, a few choice varieties; figs, ten, purple black. This is one

of the best ranches in the district. It is peculiarly well adapted to the culture of the vine, and affords some of the finest of the grape in its several varieties. In fact, all kinds of fruit on this ranch are of excellent quality.

Gold Spring Ranch, vineyard, thirty acres—vines, thirty thousand; grapes mostly Los Angeles; two thousand Black Burgundy; few Black Hamburg. Apple trees, one hundred and fifty; peach, eighty; plum, fifty; cherries, thirty; pears, sixty. This is the most extensive and probably the most profitable wine ranch in the district. It is difficult to obtain information with regard to the profits of this ranch, as the owners seem to be suspicious that all inquiries on the subject have no little to do with the idea of taxes. The proprietors of this vineyard manufacture both wine and brandy in considerable quantities.

Jarvis' Ranch, thirty acres—vines, twelve thousand, mostly of the Los Angeles variety; other varieties, Carminet, White Muscat of Alexandria, Black Hamburg, Black Morocco, Reine de Nice, Purple Constantia, etc. Seventy varieties of apples; nine acres of apple trees, all of choice selections. Peach, three hundred, of choice varieties. Pear, one hundred and fifty, of select and choice varieties. Plum, twelve varieties; Washington, Lombard, Green Gage, and several other varieties. Cherries, twenty trees, of good and choice varieties. Nectarines, a few; and quite a number of apricots.

John King's ranch, twelve acres—vines, twelve thousand, chiefly Los Angeles; some White Shasta; few Black Hamburg. Apple trees, seven hundred; four hundred bearing; mostly of the Golden Russett variety; other varieties—Wine Sap; Gloria Mundi, twelve; Early Harvest, twelve. Peach, five hundred, chiefly of the Early and Late Crawford; several other varieties; fifteen or twenty Herefordshire White. Pears, twenty-five trees; Winter Nelis, Vicar of Winkfield, Duchess de Angouleme; other varieties. Few plums. Apricots and nectarines, a few.

J. Nichols' ranch, twelve acres—between six and seven thousand vines, chiefly of the Los Angeles Grape; a few other varieties—Black Hamburg, Isabella, Muscat of Alexandria. Apple trees, three hundred. Peach, three hundred—all choice varieties. Plums, a few—six trees. Cherries, ten trees, of the best varieties White and Black Oxheart. Nectarines, four trees. Figs, four trees. Pears, twelve trees, of good varieties. This ranch, with care and culture, will be a first rate vineyard.

Rosedale Ranch, G. C. Dawson, thirteen acres—four thousand vines, of the choicest varieties. Peach trees, seven hundred. Apple, three hundred. Half a dozen plum; a few apricots and nectarines. Pears, one thousand trees, all select and choice varieties; five hundred Bartlett, two hundred and fifty Winter Nelis, a few Glout Morceau, and several other varieties—Vicar of Winkfield, Duchess de Angouleme, Van Monis, etc. Three quarters of an acre of strawberry vines. This is one of the very best ranches for fruit in the district, and is producing specimens unsurpassed by any other. The soil and facilities for water are just such as to make it a profitable investment to the owner, under good culture.

T. J. Byrd's ranch, eight acres—six thousand vines, mostly Los Angeles; other varieties—Black Hamburg, Black Morocco, Grizzly Frontignan, White and Black Muscat of Alexandria, Deacon Superb, White and Rose Chasselas, Reine de Nice, White Reine de Nice; and several other varieties. Apple trees, two hundred; in nursery, two thousand. Peach, one hundred and fifty. Plum, twenty-five trees; in nursery, one

hundred. Nectarines, twenty. Apricots, fifteen. Figs, five trees. Pomegranates, two trees, bearing.

Paran & Co.'s ranch, ten acres—vines, five thousand, mostly Los Angeles. Apple trees, fifty; pear, one hundred; plum, two or three; fig, three. Fruit of good varieties.

N. S. Delano's ranch, three acres—one thousand two hundred vines, chiefly Los Angeles. Apple trees, one hundred; peach, fifty; plum, twelve; fig, three. All of good varieties.

Knickerbocker Ranch, eight acres—six thousand vines, mostly Los Angeles; apple trees, four hundred; peach, two hundred; plum, ten; one eighth of an acre strawberry vines; cherry trees, ten; apricot and nectarines, a few; ranch, a good one.

A. Bixel's ranch, four acres—two thousand five hundred vines, mostly Los Angeles; other varieties, Catawba, Tokay, Muscatelle, White Chasselas, and six or seven other varieties; apple trees, one hundred, selected and choice fruit, mostly winter apples; peach trees, fifteen; pears, twenty-five; plums, six; quince, twelve—all of the best and most select varieties.

V. A. Crow's ranch, twenty acres—three thousand vines, mostly Los Angeles; other varieties, Black Hamburg, Reine Victoria, Reine de Nice, Early White Malvoisie, Rose, Lombardy, Black Paran, Red and White Tokay, White Nice, Malaga, Black and White Muscat of Alexandria, Cannon Hall Muscat, Grizzly Frontignan, Tin Tindal, Syrian, Black Morocco, Frammer, White, Miller's Black Burgundy, Large Burgundy, Golden Chasselas, Fontainebleau Chasselas, and White Chasselas; apple trees, four hundred; peach, one hundred; pears, one hundred; plums, thirty; orange quince, twelve trees—all of the most choice and select fruit trees.

J. W. Keely's ranch, six acres—two thousand vines, mostly Los Angeles; other varieties, Reine de Nice, White Chasselas, Muscat of Alexandria, Isabella, and other varieties; apple trees, six hundred; varieties, Wine apple, Spitzenberg, Swaar, Winter Queen, and other varieties; peach trees, one hundred; pears, forty or fifty—choice selections.

John Warren's ranch, five acres—two thousand vines, mostly Los Angeles; apple trees, three hundred; peach, five hundred; pears, fifty; apricots, twenty-five; plum, forty—all of the best selections of fruit.

J. W. Kelley's ranch, fifteen acres—five hundred vines, mostly Los Angeles; varieties, Black Hamburg, Black Prince, Black Muscat of Alexandria, Early White Malvoisie, Isabella, and other varieties; apple trees, one hundred; varieties, Early Harvest, Early Red Strawberry, Sugar Loaf Pippin, Sops of Wine, Zetoffsky, Alexander Large, Autumn Pearmain, Fall Pippin, Maiden's Blush, American Pippin, Baldwin, White Belfleur, Gloria Mundi, Golden Russett, Roxbury Russett, Newtown Pippin, Northern Spy, Rhode Island Greening, Swaar, Spitzenberg, Wine Sap; peaches, Early York Tillotson, George the Fourth, Late Admirable, Late Heath Cling, Red Rarieripe, Snow, Blood Clingstone, Flat Peach of China; nectarines, large and small, white and purple; pears, Bartlett, Rousellest de Meester—the largest pear in the country, Spring pear, Late Russett pear; cherries, Kentish cherry, and several other varieties; plums, Golden Drop and other varieties.

W. Ish's ranch, seven acres—two hundred and fifty vines, mostly Los Angeles; apple trees, sixty-two; peach, seventy-five; pear, twenty-four; plum, twelve, good varieties. Also half an acre of strawberries—do well—make more profit from them, in proportion to cost of cultivation, than any other fruit.

Dunbacker, two ranches, four acres—vines, one thousand; apple trees, one hundred and fifty; peach, seventy-five; plum, fifteen; pear, ten; nectarine, ten; apricot, six; cherries, twelve. Fruit, good selections.

William Luddy's ranch, seven acres—vines, four thousand; apple trees, one hundred; peach, one hundred and fifty; plum, twelve; pear, eighteen; cherries, two; apricot, eight; nectarine, two. Good selections of fruit.

S. H. Rice's ranch, one acre—two hundred vines; apple trees, eighty; peach, two hundred; plum, twenty; pear, ten; nectarine, ten; apricot, six; two hundred raspberry vines. Good selections of fruit.

H. Dunbar's ranch, three acres—vines, one thousand three hundred, chiefly Los Angeles; few Black Hamburg; other varieties, Black Muscat of Alexandria, Rose Chasselas, Frontignan, two hundred; apple trees, one hundred; pear, forty; peach, three hundred; plum, twenty; nectarine, twenty; figs, twelve. Select fruit trees.

R. W. Potter's ranch, fifteen acres—vines, two thousand five hundred, chiefly Los Angeles; apple trees, three hundred; peach, two hundred; plum, twelve; pear, twelve. Choice varieties.

John Munroe's ranch, six acres—vines, one thousand, chiefly Los Angeles; apple, one hundred trees; peach, one hundred; pear, twelve; plum, one; cherry, six—fruit good.

I. K. Hunter's ranch, three acres—vines, six hundred, chiefly Los Angeles; other varieties—White Chasselas, White Muscat of Alexandria, Black Hamburg, Black Tripoli, Purple Constantia, and several other varieties; apple trees, sixty; peach, thirty; plum, two; cherry, one; pear, twelve—choice varieties.

C. H. Dickinson's ranch, twenty acres—vines, six hundred, chiefly Los Angeles—a few other varieties; apple trees, five hundred, mostly winter apples; nursery, two thousand three hundred, second year grafts, choice varieties; pear, three hundred trees; peach, two hundred; plum, twenty; apricot, eighteen; nectarine, four.

Nathaniel Fales' ranch, six acres—vines, five hundred, chiefly Los Angeles; other varieties—Isabella, White Sweetwater; apple, seventy-five trees—Red Gilliflower, Baldwin, Early Harvest, Spitzenburg, Gloria Mundi, Swaar, Vandevere, and Newtown Pippin; plum trees, twenty—Jefferson, Perkins, Scarlet, Green Gage, etc.; Peach, forty trees—Early Crawford, President, Morris White, and other varieties; apricots, Purple and White; pear, thirty trees—Bartlett, Winter Nelis, Duchess de Angouleme, and other varieties; cherry, twenty—May Duke, Biggarreau, Pink Heart, etc.; Fig, eight trees—blue black; quince, ten trees.

A. Pickins' ranch, three acres—vines, two hundred and fifty, chiefly Los Angeles—one hundred White Muscat of Alexandria—twenty-five Reine de Nice; apple, thirty-two trees—varieties, twelve—choice fruit; peach, thirty—mostly of good varieties; pear, six; plum, five; few quince and apricots, raspberries, and gooseberries.

Colonel Leslie's garden ranch, four acres—vines, six hundred, chiefly Los Angeles—five thousand grape cuttings, of the Mission grape; peach, three hundred trees; apple, one hundred; plum, thirty—of ten varieties.

G. C. Lucas' ranch, three acres—apple, three hundred trees; peach, fifty; pear, sixty; vines, fifty.

T. Caldwell's ranch, three acres—apple, two hundred trees; peach, two hundred; plum, twenty-five; pear, twenty-five; vines, fifty—Los Angeles; cherry, five—all excellent fruit.

B. Winton's ranch, five acres—vines, one thousand—Los Angeles; peach, three hundred trees; apple, seventy-five.

J. W. Stewart's ranch, four acres—vines, one thousand—four hundred bearing; apple, twelve trees; peach, two hundred; apricot, three; cherry, three.

J. Stewart's ranch, one quarter of an acre—vines, four hundred—two hundred Los Angeles—other varieties, Rose Chasselas, White Muscat of Alexandria, Black Muscat of Alexandria, Catawba, and several other varieties.

Tuttle & Millington's ranch, two acres—vines, seven hundred, chiefly Los Angeles; apple, one hundred and fifty trees; peach, twenty-five; pear, twelve; plum, twelve; fig, two; blackberry vines, two hundred; raspberry, one hundred and eighty.

I. Ramey's ranch, four acres—vines, four hundred and fifty, mostly Los Angeles, a few other varieties; apple, two hundred and fifty trees; peach, two hundred and seventy-five; plum, twenty; apricot, three; nectarine, ten; pear, twelve.

Connor, Boyle & Schelly's ranch, four acres—apple, three hundred trees; peach, three hundred and fifty; pear, fifteen; cherry, eight; apricot, twenty; plum, twenty; nectarine, eight.

R. C. Northup's ranch, six acres—vines, one thousand; apple, two hundred trees; pear, twelve; peach, two hundred; plum, three; cherry, eight; fig, six. Most of the grapes on this ranch are of the Los Angeles variety, and of very superior quality; other varieties—Black Hamburg, Black Morocco, Black Prince, and several other varieties of foreign grapes, are cultivated on this ranch, and produce some of the best specimens in the district. The soil and the hillside position of the ranch are peculiarly well fitted for the production of the richest and most delicious fruit.

M. J. Fuller's ranch, two acres—vines, one hundred, chiefly Los Angeles; apple, seventy-five trees; plum, eight; fig, eight; pear, ten; peach, seventy-five; cherry, eight—Ox Heart, Black Heart, and other varieties; currants, raspberries, and gooseberries—excellent fruit, and of the best varieties.

What may be said of the grape, may well be said of the apple and pear. In no country can be found better specimens of the apple and pear, or of more choice varieties, than in our orchards and gardens. The foothills of our mountains are as productive as any region that produces these fruits. Our peaches are unrivalled, especially those that are cultivated with care and attention. The plum, the apricot, and the nectarine, in our gardens and ranches, present their fullest growth, luxuriance, and richness, in size, flavor, and excellence. Currants, raspberries, and gooseberries, are all of them cultivated with success, and find a genial climate and soil in our gardens and fields, producing specimens in the several varieties that are equal to those of any other region in which they are acclimated.

Strawberries—The strawberry is a fruit that occupies a more limited space in its season, use, and value, than perhaps many other fruits, but still valuable, and one of the great luxuries of the season. It is produced abundantly in our district, and possesses as high a character in flavor and aroma, as in any other district where it flourishes in its favorite soil.

Vegetables—The beet, carrot, cabbage, and onions, are all of them grown with ease, success, and in abundance, in this district and county; and when skilfully and carefully cultivated by the gardener, are produced of a size and quality not inferior to those of any other region.

Grain—Wheat, barley, and oats, are grown with success when the seasons are not too dry.

Potatoes—The mountain potatoe is considered the best in market, though not uniformly to be relied on for a good crop in this district in dry seasons.

Items not enumerated in the tabular sheet furnished are, bees, barnyard fowls, marble quarries, forest trees, and geological cabinets.

BEES.

There are in this district about three hundred swarms of bees. Each swarm and hive are estimated to be worth at least ten dollars; making a total of three thousand dollars. The bee flourishes in this district, and is a most profitable investment to a certain extent. Among the most successful in this branch of business is J. W. Stewart, who has fifty-eight swarms of bees, and they are all of them the produce of one swarm purchased five years ago. Mr. Stewart has made a handsome income, as well as increase from the bees, each succeeding year.

R. M. Chenoweth has forty-two hives of bees, the produce of one swarm in five years, and has made sale of a considerable amount of honey.

J. W. Marshall, of Columbia, has twenty-five swarms. He commenced the bee business five years ago, with one or two swarms. He has sold several hundred dollars worth of honey, beside what he has used.

Mr. Norton, of Knapp's Ranch, has about one hundred swarms, and has made large profits from his bees.

The patent hives have proved a complete success to protect the bees from moths and worms, when care is taken to drive them from the hives, which can be easily done in the patent hives.

BARNYARD FOWLS.

The number and value of this item is difficult to be estimated, though it is very considerable, amounting to many thousand dollars each year in the gross amount of poultry and eggs. There are consumed not less than five or six thousand in this district.

MARBLE QUARRIES.

Marble quarries are numerous and of good quality in this district. There are in and near Columbia, four. In Vine Springs is an extensive quarry on an immense ledge, of fine and good quality for almost any of the purposes to which marble is applied. The second is in Vine Springs District; a pure white marble, susceptible of high polish, suitable for statuary, and is an extensive ledge. The third is in Matelot Gulch, Columbia; is pink and black Egyptian, mixed—will take a high polish, and may be wrought to ornamental uses, for lamp stands, mantelpieces for fireplaces, and other ornamental uses, and is an extensive quarry. The fourth is on Knapp's Ranch, Columbia; white marble, with blue veins, and valuable for general purposes to which marble is applied.

FOREST TREES.

In this district, and the mountain range above, are inexhaustible quantities of pine, of several varieties, principally of sugar and pitch pine,

on the hillsides and of the mountains, and of the best quality for lumber. The cedar, nut pine, and oak, white and black, are abundant.

CABINETS OF NATURAL HISTORY AND GEOLOGY.

These are not to be overlooked, when, in time, our State shall establish an Agricultural College. There are several respectable cabinets of fossil and geological specimens in this district and county, and they might contribute largely to the supply of a cabinet for a geological department of an Agricultural College, which is now deemed of no inconsiderable importance to the State.

There are a number of geological cabinets in the district and county; the most extensive in the district is that of J. W. Glass. Among the fossil remains in this cabinet are those of the mastodon, rhinoceros, buffalo, and three skulls of an extinct race of men. One of them was found connected with bones which indicated that the person to whom they belonged was at least eight feet in height, taking the thigh bone as a measure of the fossil as it once existed in its primitive state. Other remains of this ancient race are in this cabinet, such as stone ladles, dippers, stone bowls, and other articles of stone supposed to be used in some game or amusement. Specimens of petrified animals: a snake taken from a strata one hundred feet below the surface; it was imbedded in a sedimentary deposit. The deposit above it consisted of twelve different strata—four of sediment, four of gravel, and four of limestone; the sediment and gravel separating each strata of limestone. This cabinet contains also a large variety of sea shells found in a mining claim at Knight's Ferry, elevated a considerable height above the ocean level. Also, the remains of the mastodon, and several rhinoceros teeth; one of remarkable large size of the mastodon. Also, a large sea shell, dug up in Gold Springs, Tuolumne County, several thousand feet above the sea level. Also, many varieties of petrified wood, of the oak, pine, manzanita, sage brush, and amianthus. Also, the section of a tree, being so light that twenty feet of it could easily be carried in a man's hand, without inconvenience, though a foot in diameter. This singular tree, in its present shape, has been examined by many scientific men, and no one has been able to divine the process which has produced its wonderful change. Also, a large variety of asbestos and mountain leather. Also, a large and beautiful collection of crystallizations, of various elementary formations, garnets in mica slate, feldspar, and indurated clay. Also, specimens of jewels of ocean deposit, in basins formed by the action of water, found in a locality about five hundred feet above the bed of the Stanislaus River. Also, specimens of crystallized talc, acinolite, opalitic fabrite, silicious frost, a beautiful variety of agate, moss agate, and opalitic quartz. Also, of serpentine, and crystals of serpentine; together with about one thousand five hundred pounds of fossils, minerals and curiosities. Also, specimens of crystalline marble, pink color, mixed with veins of blue, yellow, and green, from Matelot Gulch, Columbia.

Dr. Snell, Professor of Geology and Mineralogy, of Sonora, has also a splendid cabinet of geological specimens, numbering eight to ten thousand—sufficient of itself to form a cabinet for a college department of agricultural science.

All of which is respectfully submitted, with the hope that an appropriation will be made to pay expense of the labor in furnishing such information as is herewith presented to the State Board.

THOS. C. BIRNEY.

ALPINE COUNTY.

S. A. HAWKINS.....County Assessor.

I. N. HOAG, Esq.,
Secretary State Board of Agriculture:

SIR:—Annexed please find a certified copy of my assessment roll for eighteen hundred and sixty-five, containing the statistics of Alpine County as requested by the Board.

I regret that the report is so incomplete, but it should be borne in mind that this is almost exclusively a mining county, and that it is only two years since its independent organization. The recent date of the mineral discoveries within the limits of the county, and the very limited amount of agricultural development which has followed, leaves me destitute of any data, authentic or otherwise, for comparison, thus adding to the difficulty of furnishing you with a report as reliable as I could wish.

Thus far the agriculture of the county may justly be termed almost purely experimental, except the production of hay and potatoes, both of which are crops of ascertained certainty and value. The successful cultivation of the small grains remains as yet problematical to some degree, but the result of the experimental culture of the year will probably induce largely extended effort in the coming season, and enable my successor to inform you with greater certainty of the adaptation of the level portion of the county to such pursuits. The small number of acres reported as under cultivation, will show you that only surmise can, for the present, be indulged.

The territory embraced within the limits of the county lies almost entirely in close proximity to the summit of the Sierra Nevada Mountains, at an average elevation of seven thousand feet above the level of the sea. Silver Mountain Peak, eleven thousand feet high, finds itself eclipsed by Mount Whitney, some five miles south, which is thirteen thousand feet high. In addition to the two mentioned, there are a number of peaks reaching an altitude of from eight thousand to ten thousand feet, and with a rare appreciation of fitness, the county on its organization received the name of "Alpine."

Within its limits are found the sources of the Stanislaus and Mokelumne, flowing westward, and of the Carson and Walker Rivers, flowing eastward. A number of small but beautiful lakes are interspersed among the mountains, and almost every range affords a heavy belt of timber, large, and of good quality, the principal varieties being pitch pine and hackmatack. After the melting of the snows, excellent pasturage abounds on the mountain sides, and in the small valleys and flats along the different streams.

Traversing the county from north to south are two distinct series of silver-bearing quartz lodes, and a number of copper lodes. The first discovery of these lodes was made by a party passing through the present site of the Town of Silver Mountain, late in the fall of eighteen hundred and sixty; but the first location for mining purposes was made in the spring of eighteen hundred and sixty-one. The assays made from the croppings of several of the ledges showed so favorably as to induce continued prospecting. During the three following years a large number of ledges were located, and the area comprising the present county was divided, in the progress of discovery, into ten districts, as follows:

Silver Mountain, Monitor, Mogul, Raymond, Alpine, Webster, Silver King, Mokelumne, Highland, and Woodford; the latter extending into the State of Nevada. Unfortunately for the interest of the region, the principal portion of those for whom the locations were made were men of small means, unable to proceed with the development of the mines, and at the same time unwilling to sell to those who were able and desirous to purchase and develop them. The consequence was that but little work was done in the three years following the first discovery, and *none* of a character to permanently open or benefit the different claims. In Silver Mountain, Monitor, Mogul, Mokelumne, and Raymond Districts, a considerable amount of work has been done within the past two years, of which I have obtained the following data in relation to the principal lodes and companies.

SILVER MOUNTAIN DISTRICT.

Mountain Company No. 1—Amount of tunnel run, seven hundred feet. Amount required to cut the ledge, one thousand one hundred and fifty feet; will open it nine hundred and fifty feet deep.

Pennsylvania Company—Amount of tunnel run, two hundred feet. Amount required to cut the ledge, seven hundred and fifty feet; will open it six hundred feet deep.

Buckeye No. 1—Depth of shaft, one hundred feet, and very rich ore obtained.

I. X. L. Company No. 1—Amount of tunnel run, three hundred and fifty feet; has furnished a considerable amount of fine ore.

Washington Company—Amount of tunnel run, four hundred and fifty feet; supposed to be very near the ledge. From a shaft sunk to the depth of one hundred feet, black sulphuret ore, assaying three thousand dollars to the ton, was taken, when the influx of water prevented further working by shaft.

MONITOR DISTRICT.

Winchester Series—Amount of tunnel run, eight hundred and thirty feet. Struck a ledge at six hundred feet, and four hundred feet deep, which it is thought will pay. Still running for others.

Superior Company—Amount of tunnel run, six hundred and fifty feet, and near the ledge; will get it at a depth of three hundred feet.

American Tunnel and Mining Company—Two hundred and forty feet of tunnel run, and running to open the American belt at seven hundred feet deep.

Monitor Consolidated Company—Amount of tunnel run, five hundred feet, and expect to tap the first ledge of the series in two hundred feet more, at a depth of four hundred feet.

Work is progressing on a number of other claims.

MOGUL DISTRICT.

Morning Star Company—Amount of tunnel run, nine hundred and fifty feet; have a paying ledge, and are sinking a shaft to furnish air, so that ore may be taken out.

Mullan Company—Amount of tunnel run, three hundred and fifty feet; have cut a lode at two hundred and fifty feet depth, containing a body of eight feet of rich ore.

Other companies are at work in this district, but as yet have not reached their ledges.

In Mokelumne District, through which runs the second great belt of lodes, considerable work has been done, and fine ore obtained from the claims of the "Silver Era," "Crocket," and "Rosalinda" companies, but having mislaid my memoranda, I cannot give you the exact figures.

In Raymond District, two companies, the "Illinois-California," and "General Grant," have been at work during the past eight months with very flattering prospects.

In the other districts work is suspended, awaiting the result of present efforts in the working districts, though all show most encouraging prospects, and several of them will eventually rival those that attract most attention at present.

That this will in due time be one of the richest and most populous counties in the State, admits, I think, of scarcely a doubt. Its mineral-bearing lodes are large, and every facility exists for their profitable working, while its nearness to the great marts of the State insure cheap transportation of supplies and products. Its unrivalled salubrity, in marked contrast to other silver mining regions, will add a very potent element to the causes conducive to its future prosperity.

I remain, very respectfully, yours,

S. A. HAWKINS, Assessor.

NOTE.—The statistical tables prepared from the returns of the Assessors were found so imperfect, and the Legislature having passed an Act for compiling their uniform collection hereafter, it was thought not best to go to the expense of publishing them this year. The table of the products of the State for eighteen hundred and sixty-five will be collected in full, and will appear in our report for eighteen hundred and sixty-six. —[I N. HOAG, Secretary.

SILK CULTURE IN CALIFORNIA.

By L. PREVOST, OF SAN JOSÉ.

I. N. HOAG, Esq.,
Secretary State Board of Agriculture:

DEAR SIR:—In accordance with your request, I herewith inclose you for publication a brief statement of some of the principal facts coming under my observation concerning silk culture in California. The limited space in your annual report to which I feel I am only entitled, because of the great number of industries upon which you must treat, will not allow of the elaborate statements of interesting facts which I have collected during several years practical experiment in the culture of the silkworm; but I may, perhaps, herein, although in a desultory manner, give statements of fact which shall serve to direct public attention to an industry which is destined to occupy a large place among the agricultural enterprises of the Pacific States.

Arriving in California in eighteen hundred and forty-nine, my attention was attracted at an early day to the very favorable phenomena of climate for the silk culture; but as there were neither silkworm eggs, nor mulberry leaves on which to feed the worm, obtainable, some years elapsed before I had the requisite food. In eighteen hundred and fifty-three or four, I obtained from Henry Hentsch, Esq., of San Francisco, a small quantity of mulberry seed, which he had obtained from France expressly for me, and these seeds in a few years having produced trees of sufficient size, I then applied to the same gentleman to have him procure me some silkworm eggs. These Mr. Hentsch procured for me from China; but the eggs were bad, or spoiled on the voyage, none of them incubating. By the kindness of the same gentleman, another lot was obtained from China, which also proved on trial to be worthless. Somewhat discouraged at these failures to obtain eggs which would hatch, I destroyed a large portion of my mulberry trees, having other use for the ground. In a further conversation with Mr. Hentsch, he suggested that he would procure some eggs from France. On the receipt of these, I had the satisfaction of finding that they came in good order, and, on trial, hatched satisfactorily. At this time a Mr. Miller, a competent silk grower, happened to be with me, and assisted in the hatching and feeding the first lot of worms. These produced very superior cocoons. Samples of these I forwarded to some of the largest silk growing establishments in France, which after examination were pronounced of very superior quality. This was in eighteen hundred and sixty-

Since that time I have every year raised an increased quantity of silkworms, and have never discovered any disease among them. This is remarkable, because in France, with the same treatment I have practiced, it would be impossible to raise a single cocoon. Having no other suitable building, I have been compelled to hatch and feed my worms in a small greenhouse, which being constructed of glass frames, is subject to become extremely hot in the middle of the day, and in a reverse ratio, cold during the night. The temperature in this structure would often range up to ninety and one hundred degrees in the daytime, and fall to forty-five in the night, which is not as favorable a meteorological condition for the health and activity of the silkworm as a more even temperature, which latter will produce the largest cocoons.

In eighteen hundred and sixty, I sent boquets of cocoons to nearly all of the fairs held in the State, which attracted some attention from visitors and meagre notices from a few newspapers; but no interest could be awakened in this industry, and I received scarcely no encouragement to persevere in my efforts to get our people to take hold of silk culture. The objections urged against it were mainly on account of the high price of labor. This obstacle I had already disposed of in my own mind, on the ground that we had cheaper land than in France, and the availability of Chinese labor. The cost of buying three or four acres of land here is not more than the yearly rent of one acre in the silk districts of Europe. Thus it will be seen that the silk raiser in Europe must deduct the high rent of his land every year from his profits. The difference in the cost of labor with us and in Europe for silk growing is largely to our advantage, on account of the favorableness of our climate. In my practice I have so simplified the mode of feeding and managing the worms that one person here can raise as many worms as six or eight persons can do in Europe, by their system.

My system of silk culture will apply to all climates similar to our own, but will not answer in a wet climate. It is my intention to publish my system in book form, so simplified that it can easily be understood by all. I have no desire for pecuniary benefits to myself to grow out of any knowledge of the silk culture which it may be in my power to impart to the public. I shall feel amply compensated for the years of practical experiment which I have given to silk culture from the pleasure I shall be afforded from a knowledge that my humble efforts were somewhat the means of introducing and establishing in our State an industry which will save annually millions of dollars to our people, and eventually make us the largest silk producing community in the world.

It affords me great pleasure to state that my efforts to introduce this fascinating and profitable business are meeting with some success at last, as Miss A. Packard and E. Goux, of Santa Barbara, have made a plantation of three thousand mulberry trees, and the present season raised five pounds of silkworm eggs—(three million two hundred thousand.) I gave them the eggs to start with, also directions about feeding and managing, and their ladies did the work with complete success. Considerable plantations of the mulberry have also been made in the San Joaquin Valley during the past season. And I learn that Wilson Flint will have a plantation of over fifty thousand trees, near Sacramento, from which to commence feeding the silkworm the coming season.

For many years past silk culture has been an uncertain business in Europe, on account of a prevalence of cold, wet seasons. Long continued rain storms so fill the leaf of the mulberry with water that the

worms become diseased and the moths are feeble, producing eggs which are worthless for hatching. This unfavorable climatology has compelled the silk growers of Europe to send to China and Japan for eggs, and it is known to me that over thirty thousand dollars worth of such eggs have passed through San Francisco, en route from those countries to Europe, the present season. Our success in this enterprise in this State is attracting the attention of experienced silk growers and manufacturers of the old countries. Two gentlemen, experienced, scientific, and practical silk growers, on their way back from China, where they had been to buy a large quantity of silkworms' eggs, recently came to see me, to get information about silk in California. I told them all the facts, showed them the cocoons, and where I raised them, and also the mulberry trees. Being gentlemen who understood the silk business perfectly, they agreed with me that we have the best silk country in the world, and were so pleased at learning this fact that they are going to return here next summer with the necessary capital to buy one hundred acres of land each, to raise silkworms' eggs and silk on a large scale. These gentlemen are the representatives of the two largest silk houses in Europe, and are now on their way back to France. From them I learned a very important fact, namely, that our climate is so superior for silk culture, that, by selecting our very best cocoons for eggs, year after year—for our own use—we could after a few years obtain cocoons that would beat everything known, for size and quality; that is to say, a superior article. In this opinion I fully concur. The coming of these gentlemen from France will probably induce other silk growers to come also, which would be a great benefit to the State.

Among the many orders I have received from Europe for eggs, is one from Italy for one hundred pounds. I also had an order from Mexico for five hundred ounces.

The best variety of the mulberry is the white—(*Morus alba*.) The Chinese (or *Morus multicaulis*.) is very good, however, especially when the worms are young, as its leaf is tender. Any light, sandy, loamy soil will grow the mulberry to perfection. The eggs require to be kept in a dry, cool place, from one season to another. They readily hatch in a temperature of eighty degrees, after which a mean of sixty degrees is the most favorable for them to feed, go through their several moultings, spin the cocoon, emerge from the chrysalis into the complete moth, and perform the last function, which is to lay the eggs for successive existence. Shelter will be required, chiefly to keep the worms from being devoured by birds, and the feet of the tables on which they are fed will need be stood in vessels containing water, to keep the ants from gaining access, as these insects are equally with the birds destructive of the silkworm.

The worm will spin its cocoon in about thirty-two or thirty-four days after hatching, and in this country we can easily secure two crops—one in May and the other in July. For the purpose of raising eggs, the best shaped and hardest cocoons must be selected, from which the millers will emerge in twelve or fifteen days; and as soon as they make their appearance the males and females are kept together from ten A. M. till four P. M., when the males are thrown away. The female then immediately begins laying her eggs, which will number about three hundred to each moth. Three hundred and sixty cocoons weigh about one and a half pounds; an ounce of eggs will produce one hundred and sixty-five pounds of cocoons; eleven or twelve ounces of good cocoons will give one ounce of fine silk; twenty-eight ounces of selected cocoons produce two ounces of eggs.

AGRICULTURAL PROSPECTS OF SOUTHERN CALIFORNIA.

By SOLOMON W. JEWETT, OF TULARE COUNTY.

The resources of Southern California, derived from agriculture, stock raising, and mining, are soon to become quite extensive. Those portions which are feasible for general cultivation are being worked to some extent, but the field is yet large, the soil rich, and water in supply for large settlements of farmers and planters. We have reference more particularly to the southern portion of Tulare and the eastern part of Los Angeles Counties. But a small portion of the United States Government and State swamp lands are as yet under improvement, which lie all along from King's River to Kern River and El Tejon Creeks, a distance of one hundred and sixty miles. Many sections are well adapted for tillage.

It is generally conceded that the farm lands bordering upon Kern River and its branches are the most fertile and productive. They are not exceeded, or perhaps equalled, in any other portion of the State of California north of this point. The soil is generally a dark brown alluvial deposit, which has been forming for ages past, by the overflow of Kern river. The soil is therefore deep; roots of annual plants penetrate the same many feet in depth. It is easily cultivated, and produces in abundance whatever the husbandman desires to cultivate. Here the tobacco plant is easily produced; ears of corn may be seen standing nine feet from the ground; Chinese sugar cane still higher; Tennessee and other kinds of cotton grows from four to five feet, and will produce from three to five hundred pounds to the acre of clean cotton, properly cultivated; small grains (cereals) produce well; beans are a sure crop; peanuts will often yield five hundred bushels to the acre; southern sugar cane and the castor bean flourish; the best kind of soil and climate for the fig tree; peaches and grapes are grown here; squashes and melons produce well, and with little or no attention. In fact, a small field will support a family, with little care or labor.

One of the main checks to an early settlement is sickness among the settlers. This season has been noted for fevers; chills and ague have been uncommonly prevalent in the low lands. Among the stock ranches near and in the foothills, it is always healthy, as well as at El Tejon. Kern Island, so called, is formed by a divide in the river as it emerges from the

mountains. Kern Lake bounds it on the southwest. Much willow and cottonwood timber grows here, enough for fencing and firewood during all time. Live fence is soon formed by setting willow and cottonwood poles or stakes along the small ditches, standing near together; in two years this becomes a good protection to all kinds of live stock. Over one hundred acres of cotton upon this island now under cultivation in one field, which bids fair to produce well, some of which is nearly ready to pick; about forty acres of which was planted with Mexican seed—this is not as forward as the Sea Island and Petit Gulf, obtained from the east. The planting commenced in April, and on the tenth of May over one half of the seed was in the ground; commenced hoeing or, "scraping," the twelfth of May, with a full set of hands; the twenty-second, finished planting with Tennessee seed; on the first of July the cotton stands from six to twenty-two inches high and begins to "square," and a part hoed the third time. The twenty-ninth of July, about fifteen acres irrigated for the first time. Finished irrigating the twenty-sixth of August. Most of the field was irrigated twice.

The planting was experimented upon at various widths, which proved that five feet was sufficient distance in width of rows, and from ten to twelve inches apart in the rows. The soil should be moist, and the seed planted about two inches deep, strewed along quite thick in the trench, after being thoroughly wet one day, and then rolled in ashes previous to planting. The ground is best prepared in beds previous to planting; a board is fastened to a plough stock, after the fashion of a bull-tongued plough—this is about eighteen inches in length, and notched on the under side, so as to carefully and thoroughly cover the seed.

The general expression has been that this cotton field looked as promising as that of the old cotton States. Rains usually commence here about the middle of December, and frosts in November.

The above named cotton field is upon new lands, mostly reclaimed this season, cleared of willows, weeds, and brushwood, and broke up with light single teams, that would turn from one and a half to two acres each day; about six miles of ditch have been made upon the premises. It is presumed that in another year, one fourth the labor and expense will produce more cotton than this year's yield.

This cotton came up very strong and broad in the leaf, and showed no signs of disease. Good judges say a better and more profitable staple is grown here than that bordering on the Mississippi River, and can be placed in market in better condition, as the fall rains do not commence until the picking season is well over.

The actual expense the first year cannot be easily estimated; but we think after the land is once tilled, machinery and tools at hand, that it would not cost the producer over five cents per pound. The system most profitable in the United States is that adopted by the proprietors of large plantations, and worked by families. We find Chinese labor to be good, reliable, and the cheapest.

At Three Rivers, Visalia, cotton was grown successfully last year in small quantities, at an average yield of over five hundred pounds of ginned cotton to the acre. This year planters have gone into the business more extensively in that quarter. Considerable cotton will also be raised about Los Angeles this season.

A green worm, about an inch long, attacked the cotton plant, completely riddling the first leaf, covering about thirty acres. However, they made their exit in a few days, and did not seem to materially injure the stand. It is best that all the cotton be picked, ginned, and pressed

before the rainy season commences, as much is wasted by the wind and rains.

Plenty of United States Government and State lands can be secured all along this great valley, and occupied for agricultural purposes and for the raising of stock, but the best stock lands may be found among the foothills, equal, if not superior to any in the State. Rich and valuable grasses, which make the best food for fattening cattle, horses, and sheep, abound here, and fit them for an early market in the winter. Swarms of fish float in the lakes and rivers, the best of which are the salmon trout. A home market can be relied upon for all of these luxuries by the consumers who are settling in among the foothills and mountains which surround this valley, opening the richest of mines of gold and other metals. In fact, this section of country will soon stand second to no other portion of the State in its yield of the precious metals.

We find the most pleasant, rapid, and cheapest route of travel to reach these different points of interest, is by steamer to the Port of Los Angeles, then by easy coaches that daily run into the interior.

On the seventh day of October, Mr. Jewett wrote as follows. After stating that they had been measuring the field of cotton preparatory to making the necessary proof before the Board of Judges, and that it contained one hundred and thirty-three and one half acres, he says: "We have commenced picking; the cotton has filled well with bolls, and it looks very fine. Cotton planters of experience give it as their opinion that if the autumn frosts keep off as usual, there are many acres that will produce over five hundred pounds to the acre, and but few acres that will go as low as two hundred and fifty pounds. We hope to be favored by the frosts. The Mexican cotton is much behind that grown from Eastern seed, but the bush is strong, and bears a heavy foliage, which we think may protect it some. The plant is well loaded with fine large bolls of cotton, even better than the other sorts. Some say it will acclimate so as to come on earlier in the future."

COTTON CULTIVATION IN CALIFORNIA.

STATEMENT OF A. R. JACKSON,

IN REGARD TO THE COTTON CROP IN THE SOUTHERN PART OF CALIFORNIA.

SACRAMENTO, December 15th, 1865.

I. N. HOAG, Esq.,
Secretary State Board of Agriculture:

DEAR SIR:—Having visited the southern portion of this State recently, and having seen most of the cotton fields now in cultivation there, I hand you, at your request, the following brief statement in regard to them:

COTTON CROP.

In Los Angeles, Ignatio Monteo has twenty acres. Character and condition of these crops not known, but were said to be promising. José Rubio has fifty-three acres, four miles west of Los Angeles—twenty-five acres in one field, and twenty eight acres in another. The seed was principally the green Tennessee Upland, a few rows of Sea Island, and a few rows of seeds sent from the Patent Office, supposed to have come from Texas. A part of this crop was planted in the last of April, and the whole was completed on the tenth of May. The ground is a fine, sandy loam, and was not irrigated. The twenty-eight acres did not produce a very even crop; a part appearing October twenty-fifth, vigorous and well matured, and a part stunted and imperfect. The twenty-five acres will, apparently, be remunerative, being a good stand, of vigorous growth, and of excellent fibre. The seed was planted in ridges, four feet and a half feet apart, properly thinned and hoed, but not topped.

Mr. Keller, some two miles north of Rubio's, has one hundred and eight acres. Seed, Mexican, Tennessee, and Petit Gulf—the last two varieties obtained at Salt Lake. The whole was planted in furrows, four and a half feet apart. Planting closed in the latter part of April. Crop irrigated twice. Soil sandy and gravelly. About twenty acres of Petit Gulf, though the bolls are small, will make an excellent yield. This variety appears most vigorous, matures early, and will unquestionably, in our climate, insure a certain crop. The Mexican ripens very slowly,

but has a large boll, and the fibre, though coarse, is long and firm. The Tennessee seems less regular in yield, owing, perhaps, to the difference in quality of soil; some spots failing entirely, and in other places apparently thrifty stalks yielding very few if any bolls.

All parties in this county seem satisfied the crop with them will succeed, and next year there will be several thousand acres planted.

In Tulare County, Messrs. Livermore, Jewett, and Chester, have one hundred and thirty acres planted on Kern River, near Kern Lake. The varieties are Mexican, Tennessee, and Sea Island. The last, here as in Los Angeles, is not successful. It matures slowly, and seems unfitted to our soil or climate. This company have about five acres of this variety, but it will evidently not mature before frost. The Mexican and Tennessee seems more thrifty than in Los Angeles. The planting was finished in May. The ground is quite sandy, but with irrigation seems highly productive. The crop was irrigated twice. The seeds were planted in ridges, furrowed with a bull-tongue plough, and the plants well thinned and hoed. The stalks at maturity were topped and trimmed. Much of this ground, for causes unexplained (perhaps alkali,) like Keller's, was unproductive. These spots would perhaps reduce the land in bearing to one hundred and five or one hundred and ten acres; but the stalks in all cases seemed productive, and well filled with bolls. The Tennessee here also matures much more rapidly than the Mexican, but both seemed sufficiently advanced to insure a favorable yield. Mr. Jewett, superintending the work, said he had gathered (November second) about seventy pounds to the acre (unginned cotton,) and thought most of his ground would yield over a bale to the acre. The fibre, by several experienced growers, was pronounced superior.

In Fresno County, Messrs. Burchard and Kinkead have one hundred acres on Upper King's River, all Mexican, and was planted in the latter part of May. This crop is less advanced than either of the others. It was planted in furrows, and covered with a plough at very irregular depths. The ground is a fine, warm, sandy loam, and the crop (November ninth) looked thrifty. The field, owing to the manner of planting, was in parts very thick, and in parts very thin, but the stalks were well filled, and bolls were just beginning to open. The crop was cultivated nearly as it grew, with little or no thinning, and no topping or trimming of stalks. The field was well sheltered from prevailing winds, and the owners did not anticipate any injurious amount of frost till midwinter. If their views should prove correct, the vigorous character of their crop will give them a good yield. Mr. Barton, further up the river, has an acre or two of Green Seed and Mexican, but its condition was not ascertained.

These parties are satisfied that if their present crop is not profitable, the result is attributable to their want of knowledge and experience in cultivation, and are erecting a gin house and gin, with a determination to continue the cultivation.

Respectfully,

A. R. JACKSON.

LETTER FROM JOSÉ RUBIO, OF LOS ANGELES,

UPON THE SUBJECT OF COTTON CULTURE.

Los Angeles, September 14th, 1865.

I. N. Hoag, Esq.,
Secretary State Board of Agriculture:

SIR:—I have forwarded to your address, by Wells, Fargo & Co., a sample of cotton of this year's growth, for exhibition at the State Fair. It is a sample from my plantation, situate half a mile from the southern boundary of this city, and three miles from the central business portion of it.

There are fifty acres under cultivation, consisting of two lots of twenty-five acres each, a road passing between them. The land is of a rich alluvial deposit, and of the first quality for cultivation.

In the beginning of April, eighteen hundred and sixty-five, I commenced ploughing the land with a light plough, and then cross-ploughed it, then gave it a good harrowing. I then laid out my lines six feet apart, with cross-lines three feet apart, and planted from three to four seeds in a hill, (the seed I obtained from Utah Territory,) and covered the seed about half an inch deep. All of which work I finished by the latter part of the month of April.

In the beginning of July following, the cotton had attained a height of eighteen inches. At that time I ploughed it, turning the furrows towards the plants. In the beginning of August last I ploughed it again in the same manner.

The plants are now from four to six feet high, and spread out so as to form an almost impenetrable barrier between the rows. The bolls are ripening, and opening out very rapidly, showing a good staple, as sent you. I will commence picking the cotton about the twenty-fifth of this month, and I estimate the yield will be about five hundred and fifty pounds to the acre.

Before ploughing I irrigated the land well, since which time I have not irrigated it at all. In my opinion there is no plant that requires so little water as this class of cotton. But the land must be of the best quality, with a light dry soil. I think that too much water retards the growth of the plant to such a degree that the frost is liable to injure it before ripening.

My plantation is on government land, upon which I have settled, and hold by actual occupation, and there are several thousands of acres adjoining me on the south, equally as good, and unoccupied, well adapted to the cultivation of cotton.

I herewith submit a statement of the cost of putting in the crop, and incidental expenses attending the same, up to the first of this month:

For ploughing fifty acres twice, at \$2 00 per acre	\$200
For making rows and sowing—five men for eight days, at \$1 50 per day.....	60
For wages of one man at \$35 per month for four months—ploughing and taking care of same.....	140
For 300 pounds of seed at 30 cents per pound.....	90
Total	\$490

Very respectfully, your obedient servant,

JOSÉ RUBIO.

P. S.—The proper affidavits substantiating the above and foregoing will be forwarded by next mail.

STATEMENT OF LIVERMORE, JEWETT & CO.

UPON COTTON CULTURE IN CALIFORNIA.

BAKERSFIELD, KERN RIVER ISLAND, }
December 22d, 1865.

The cotton lands of Livermore, Jewett & Co. are located in the most southern portion of Tulare County, on the borders of Kern River, which affords a never failing supply of water, and may be used for the irrigation of a tract of land ten miles in width, and twenty in length. The attempt to plant and produce a crop of cotton was commenced late in the winter of the present year, from which time ditches and fences were to be made, the new lands cleared and broken up, and seed to be procured. The Tennessee Upland seed was obtained in New York, together with the Sea Island seed, and the Mexican from the port of Mazatlan. The long delay in procuring the seed made it impossible to carry out our original intentions, and instead of planting before or by the fifteenth of April, the first seed was not put in until the first day of May. The soil was a rich, sandy loam, peculiar to the river bottoms of the lower country, and was densely covered with the switch willow, grown to the height of ten feet; yet so easily were the willows removed with a common plough, that the cost of clearing was but seven dollars per acre. After breaking and clearing the land, the whole one hundred and thirty-three acres were thoroughly irrigated through ditches of about one mile in length, and at a distance of forty rods apart. As fast as the land then became dry, it was laid in ridges by throwing four furrows together. The ordinary "bull-tongue" plough was then run through the centre of

the ridge, one man following with the seed and planting as fast as the plough moved along. About five pounds of seed was planted to the acre. The planter was followed with a one-horse plough, to which was attached a piece of board, thirty inches in length, and concave on the bottom, which, passing over the furrow, effectually covered the seed. A portion of the sandy land was ploughed and furrowed four or five inches deep, and the seed planted therein was covered with a small harrow. When planted late in the season, it would seem to do as well, and perhaps better, than to be planted in the other way. Planting in ridges in the early part of the season seems most favorable, as the ridges have more or less the heat of the sun, the seed thereby more quickly generating. Planting was continued until the seventh of June, and the plants all matured well.

On light sandy soil the rows were put from three and a half to four feet apart, and the plants thinned to a distance of from eighteen to twenty inches in the rows. The plants attained a good average size, growing very uniform in height, and in September presented an appearance of great strength and beauty. In the richer tulle soil the rows were widened to a distance of five and six feet, and the plants thinned to twenty-four to thirty inches in the rows. The plants here grew to a great size, many of them from six to nine feet in diameter, very heavily loaded with bolls. They excited the astonishment of many who were familiar with the growing of cotton in the Southern States. The bolls bore the huge plants down with their weight, in many cases breaking off stems of an inch in diameter.

The field was worked over three different times—first with the hoe as soon as the plants were up, cutting the weeds and thinning out the plants to two or three in a place. The second time we used a small steel plough, running as close to the plants as possible, for the purpose of destroying the weeds, and thinned the plants to one—the strongest—in a place. The third time a plough was run between the rows, throwing the soil to the plants, and leaving the open furrow in the centre. The reducing of the weeds and grass of wild land required extra labor, which could be entirely dispensed with in the second year's planting, and the cost would therefore be much reduced.

It was not difficult to find persons who well understood the raising of cotton in the Southern States, but none knew anything of its growth by irrigation. This appeared the most formidable obstacle in the way of securing a crop. The climate offered everything favorable to the enterprise; but when and in what quantity to supply the water, must partake of the uncertain character of an experiment. The water was introduced in the centre of the furrows upon part of the land, while on other parts the ground was flooded. It was found that the plants did not suffer when water did not stand about the plants more than twelve hours. Experience soon taught us that the best way of irrigating was through the centre of the rows, the ground easily absorbing all the moisture needed by the plants.

The result of careful experiment was, that though the plants would bear more water than any other crop common to the country, yet by reason of the long tap-root made by each plant—often reaching to a depth of four feet—very much less water was required on these bottom lands than was absolutely necessary to the successful cultivation of corn. We irrigated some portions of the land once, some twice, and some three times. When ditches were prepared, one man could irrigate from five to ten acres per day.

In the month of September the top of the cotton was cut off with a large knife, one man cutting about three acres per day. It was found necessary to check the growth of the plant, and hasten the maturity of the bolls. The delay in procuring the Eastern seed made it necessary to plant the Mexican seed first; but it was found that the latter required at least six weeks longer to mature than the Tennessee. The Tennessee cotton, although planted three weeks later than the Mexican, was heavy with bolls by the time the latter was in blossom. Some portions of the land which was covered by a layer of coarse sand—where the ground had been flooded—was found to produce the best plants.

We commenced the picking of the Tennessee on the second of October, but it did not open freely until the fifteenth of the same month. On the tenth of September a heavy frost blackened the vines and materially injured the Mexican cotton, it being so much later than the other. It was found that plants upon ground which was irrigated immediately after a frost were but little injured.

The whole amount of land planted in cotton was one hundred and thirty-three acres. Of this, about twenty acres was put in to Sea Island, and from five to ten to Mexican, leaving one hundred to one hundred and ten acres in Tennessee, which latter was all in good bearing. The Mexican plants grow very thrifty, with large leaves, which shade the bolls and delay their ripening. The first Sea Island opened the fifteenth of October, but to the twenty-fifth of November we had picked only one hundred pounds. The plants make a stout growth, and fill well with blossoms, but the bolls are small, do not open freely, and are evidently out of their latitude. It probably could not be profitably raised in this country. We had but little of the "Petit Gulf" seed, but became satisfied that it and the "Tennessee Upland" were the only kinds adapted to our soil and climate. They make a quick and uniform growth, yield heavily of pure white cotton, and if planted early in the season would mature before any possible chance of frost.

The winters here are very favorable to the gathering of the crop. Rains are uncommon; fogs hardly known; the days bright, doing away with any necessity of drying the cotton. The soil and climate are favorable to the production of grains, vegetables, fruits, etc., and some of these crops may be cultivated to advantage in connection with the cotton.

We propose planting one hundred acres of cotton the coming season, and have strong hopes of inducing many others to plant smaller quantities, by offering the seed free and giving the use of the implements with which we are now so well provided. We employ in gathering the crop about thirty hands, and gin the cotton by horse power.

As near as we can judge, one man can till ten acres of cotton. We are now and from appearances may be picking for some considerable time, and the amount raised per acre is, therefore, as yet, uncertain. The sum of our experience may be considered to be:

First—The low bottom and tulle lands of the State, of which Tulare County contains a large amount, are well adapted to the raising of cotton.

Second—That the "Petit Gulf" and the Tennessee seed are the safest and most profitable, and should be planted as early as frost will allow.

Third—That from the hardy nature of the plants but little skill is required in the irrigation.

Fourth—That the seasons are especially favorable to the production and the harvesting of the crops.

LETTER AND STATEMENT OF MATHEW KELLER, OF LOS ANGELES,

UPON COTTON CULTURE IN CALIFORNIA.

LOS ANGELES CITY,
September 9th, 1865. }

I. N. HOAG, Esq.,
Secretary State Agricultural Society:

DEAR SIR:—I have forwarded one box of cotton in boll, taken from a field of one hundred and eight acres, planted in the latter end of March and first days of April. The seed was planted thus late in consequence of the season having been unusually cold. I also desire to announce myself, through you, to the President as a competitor for the premium offered by Act of the Legislature of eighteen hundred and sixty-two, for the best one hundred acres of cotton and the best one hundred bales of cotton. For the benefit of those who are unacquainted with my mode of culture, I likewise forward you a few remarks upon it, as practised by myself.

I send also a box containing samples of Sicily lemons; also samples of the shaddock, of the orange species, (*citrus decumana*;) also specimens of the quince. Hoping these articles may prove acceptable, I remain, dear sir,

Your obedient servant,

MATTHEW KELLER.

COTTON CULTURE IN CALIFORNIA.

There is no plant, scarcely, that requires so little moisture to grow as cotton, nor for which irrigation is so well adapted. In the Southern States, where they have not learned to irrigate the plant, and depend entirely upon the rains that fall, or upon soil that has a deep moist bottom, the crops are very irregular. When planted on a moist soil it requires no irrigation or rain, but should it rain copiously the crop will be damaged and short, and ripen too late, for the reason that too much moisture keeps the plant growing, making wood and foliage, and refusing to boll but sparingly. On the other hand, if cotton is planted on upland and the rains do not moisten it, it becomes stunted, producing bolls prematurely, sometimes not worth the picking. Hence the irregularities—the crops being good on the moist soil, and *vice versa*.

It is customary to top cotton which is growing too rank in strong or too moist a soil, in order to stop its growth and force it to boll, but such a crop will be always short and inferior. Therefore irrigation is peculiarly adapted to cotton, and when planted on land controlled by irrigation, the exact wants of the plants can be supplied, and can be made to bear to its utmost perfection.

The southern counties of California are well adapted to the growth of cotton, where irrigation can be had. The growing season is long, dry, and warm, and the gathering may extend to January. South of this, extending from the State of Sinaloa, among the Pima villages of Arizona, and lately among the Mormons, the blessings of irrigation produce fruits of labor, especially of cotton, apparent to every mind, and we, blessed with far more of that inestimable element than they, should use it to advantage.

I have found the best cultivation to be to corduroy the ground—that is, to plough the furrows high, like a hog's back, four and a half feet wide, leaving an irrigating ditch to facilitate the irrigation; after which the dirt is partly turned into the ditch, covering the moisture by running a small plough both ways; then a small channel made on the surface of the trench by means of a bull-tongue plough, in which the seed is scattered, and covered by the hoe, is the best way. Great care must be taken that the seed is not planted too deep, for if planted deeper than two inches the plant cannot come up—but one inch is the proper depth, and therefore the soil must be well comminuted and in the proper state of moisture to enable the seed to come out vigorously. In order that the seed may not stagnate in the ground, in the absence of abundant rain, the plan is to irrigate and plough in February, corduroy, irrigate, and plant in the middle of March, which will give the plant ample time to grow and ripen its crop. The land being well and deeply saturated with moisture at the time of planting, one irrigation more will be sufficient to mature the crop unless the land be too porous and sandy; friable soil is good, but tough and sticky lands are unsuitable. The proper distance for any ordinary good soil is four and a half by two feet.

The cost of planting and cultivating cotton is about the same as corn, only that corn requires about twice as much irrigation as cotton. As to expense of picking cotton in California, I have no experience, and it belongs to the *second* chapter of my experience, to be written after this one. But I believe that the California Indian will do it as cheap and far better than the negro.

California ought to raise enough cotton to manufacture not alone for all her wants, but sufficient for the Pacific slope; and the time *may* arrive when California will rank as a single State the *best* cotton growing region of America. I can't see any difficulty in the way; it certainly will pay better than cereals. The price of cotton ought to be a fraction higher in California than in European markets.

When we look to the fact that the Pacific Mail Steamship Company have obtained the contract for the mail between this country and China and Japan, and that it is but the opening of a traffic between ourselves and six hundred millions of the human race, we must see the importance a successful culture of cotton would be to California. During all of the past war, with the wealth of the European world to buy cotton, it could only afford the coarser fabrics of cotton goods to these nations at from fifty to seventy-five cents per pound. Six hundred millions of buyers cannot be found in Europe—then why could we not send our *manufactured* goods to those benighted nations, in fifty to sixty days, raised and made on the Pacific slope, instead of depending as we do for our cotton manufactures upon the East?

When the farmer raises the first patch of cotton his seed costs him nothing afterwards. For every four hundred pounds of clean lint he will have one thousand pounds of seed, which is valuable to make oil, and feed to cows and horses. I paid from fifty to seventy-five cents per

pound for my seed, and much was damaged by being taken out of a heated pile, or because it sweated in the hold of the vessel that brought it, and made me much expense by replanting. Now I propose to sell my seeds for ten cents per pound, of approved and reliable quality, delivered at Los Angeles. I have procured seed from Mazatlan, Hermosillo, Salt Lake, (by favor of Brigham Young,) Pima Villages, Petit Gulf, Mastadon, Carolina and Tennessee Upland. Next year my purpose is to furnish seed to the people of the State. I have one hundred and eight acres of land in cultivation with cotton; it is now in boll and beginning to open; and will, I think, make as good a crop as can be made anywhere. I am a candidate for the premium for cultivated lands of cotton, and for the first one hundred bales of cotton, according to the laws of eighteen hundred and sixty-two, page four hundred and nineteen, sections two, three, and four.

HOW TO PREVENT WORMS AND CATERPILLARS FROM ENTERING INTO COTTON AND OTHER CROPS.

The worms and caterpillars that destroy and molest crops of all kinds generally get in from the surrounding grass fields, and keep on travelling into the green and cultivated grounds, sometimes destroying all before them. This can be prevented, by running a deep and sharp ditch around the cultivated grounds, into which the worms creep; but once in, they vainly struggle to climb up the high, sharp bank of the ditch—the more particularly if the inside bank of the ditch be formed of loose dirt; the worms, in attempting to ascend it, fall back continually until they become exhausted, give up the struggle, and travel along the level bottom of the ditch in search of water, when they may be caught by thousands in wells and deep holes made at intervals for them to fall into on their travel. The husbandman cannot fail to find pleasure in seeing his multitudinous enemies imprisoned all around his grounds, although it is an ugly sight to observe them rolling and tumbling over each other in the agonies of death.

THE CEREALS CAN BE RAISED ON A LIMITED AMOUNT OF RAIN.

In localities where it rains but to a limited extent, the cereals can be raised successfully in the following simple manner, although I am afraid that California farmers are too fast to adopt it:

When it rains, break up the land thoroughly, and let it lie in fallow until the following autumn; plant in the dry soil in advance of the rainy season; the growing crop will then have the benefit of all the rain that falls, insuring an abundant crop almost any season, and avoiding failures in bad seasons. Under any circumstances, laying the land in fallow and exposing it to the action of the elements of the atmosphere, is good culture anywhere, but it is of paramount importance in California, where abundant rains cannot be depended upon every season. Rich lands abound by the millions of acres; the desideratum is to economize the rains that fall to subserve all the purposes of profitable and successful agriculture, without waste, and without the chances of failure.

TEXTILE FIBRES OF THE PACIFIC STATES.

BY WILSON FLINT, OF SACRAMENTO.

THE AREA OF TERRITORY AND POPULATION CONSIDERED.

Stretching along the northern Pacific coast, between the parallels of thirty-two and forty-eight degrees of latitude, lie the States of California, Oregon, and the Territory of Washington, while near as well as remotely inland, and belonging to the same general climate, with social and industrial relations co-dependent upon a mutual commerce which finds its way from abroad to the port of San Francisco, are the Territories of Idaho, Utah, Arizona, and the State of Nevada. In territorial extent this region covers nearly or quite one fourth of the area of the United States; and holding, as it does, the western outlets of the American portion of the continent, it is destined to occupy an importance in the trade with the eastern coast of Asia and the Australian archipelago not less interesting than that which has already grown to such colossal proportions between the communities located upon the western shore of the Atlantic.

The acquisition of most of this territory, and the establishment upon its soil of a numerous population, with many of the industries of civilized life, is comparatively the work of a few brief years, as less than two decades have passed since the United States claimed possession of only a narrow strip about the mouth of the Columbia River; and this possession at that time was held more as a dependency of the British Hudson Bay Company, then engaged in the prosecution of the fur trade with the roving bands of savages, who paid more respect to the authority of the English traders than to the few Boston men who were endeavoring to plant, amid surrounding hostilities and opposing obstacles, thrown in their way at every step by the jealous Hudson Bay monopoly, the footprints of American progress, which ever go in advance of and unaided by the Federal Government.

At the period of the gold discovery, about fifteen years since, this entire region contained not more than as many thousand white inhabitants, few of them having any settled purpose or permanent domicile, and most of them leading a life akin to that of the nomadic aborigines.

It is true, there was a settlement of Mormons at Salt Lake, but this cannot be considered to have been anything more than a mere halting place, to rest and temporarily recruit the weary disciples of that faith while on their long pilgrimage from the navigable waters of the Missouri to the Pacific coast; and the final centralization of the "Latter day Saints'" exodus in the great interior basin may be regarded as the result of one of those unforeseen occurrences by which the most sagacious human plans are foiled and entirely baffled by counteracting human agencies, in furtherance of the designs of the Ruler of the destinies of men.

Conclusive evidence is obtainable to show that the Mormon *hegira* set out from the Mississippi Valley with the purpose of finding a lodgment on the Pacific coast in Alta California, a province then held in the feeble grasp of Mexico, and in the occupancy of a sparse and unsuspecting population, powerless to resist the invasion of the hordes of semi-religious zealots who had compacted their organization in bloody persecution, amid the smoking ruins of Nauvoo, and self sanctified by martyrdom, were but repeating history when they found themselves so disturbed in the enjoyment of their peculiar doctrines in a hostile, domineering community, that they were forced to turn their eyes toward the setting sun for a new Canaan.

Of all countries within their reach none promised the isolation required in so eminent a degree as California, as this portion of the globe was seldom visited by aggressive civilization. Indeed, fifteen years since, California news found its way to the Atlantic coast by the "hide droppers," which doubled Cape Horn and twice crossed the equator in their tedious journey.

An advance colony of the Mormons had already penetrated the desert, and, scaling the Sierra Nevada, established themselves on the rich plains of San Bernardino, in the southern part of Alta California; and the ship Brooklyn, following the devious route of the "hide droppers," had, about the same time, landed a numerous community of the Saints at Yerba Buena, now San Francisco. These two events occurred simultaneously with the gold discovery, the news of which, spreading abroad, set in motion toward the new El Dorado representatives of every nation and clime. Thus, while the Mormons were mainly seeking to reach the promised land by the slow, tedious overland route, swift-flying steamers ploughed the solitudes of the ocean, between Panama and San Francisco, bearing on their crowded decks multitudes of men of all trades and professions. With the landing at San Francisco of the first steamer's passengers, there landed also with them an organized American society, in full force and vigor, to work out its inflexible purpose of dominion.

The establishment of American society and customs in California was not the result of *growth*—it was a *spontaneity*. On landing upon the shores of the newly acquired territory, men fell into the employments which had previously become habitual, or that labor to which circumstances and their versatility gave them adaptation. Thus, agriculture, the mechanic arts, literature, politics, law, divinity—all the professions in vogue in older communities—were at once resumed.

With the gold discovery disappeared every hope the Mormons may have entertained of founding an empire on the Pacific coast, where isolation alone could shield them from responsibility to the outraged moral sentiment of modern civilization. And thus, perhaps, has been averted the spectacle of a power which, with its sanction of polygamy, sows

around the domestic fireside impurity, the twin of slavery—both relics of barbarism—which, when hemmed in and forced to unwilling contact with a pure christianity, everywhere decay and die.

Although the volume of the Mormon emigration was brought to a halt at Salt Lake from causes briefly stated, their continued location at this point has hardly a less remarkable influence on the progress and development of the States and Territories west of the Rocky Mountains than it would have had had it reached its point of intended destination. Being half way on the overland route, Salt Lake City, with its abundant supplies for man and beast—the product of the most extraordinary agricultural perseverance and tireless industry anywhere ever seen—offers facilities for the transmigration of large numbers of people and stock, as well as to furnish food, indispensable to those engaged in prospecting and working the mines in vast sections of the great interior basin.

Passing over the fifteen years which have elapsed since the gold discovery, when the white population in the three States and four Territories named did not exceed fifteen thousand, we may safely estimate that it has swelled at this date to near one million of souls. That so numerous a people, occupying so varied a soil and climate, covering so wide a region over which they are dispersed, remote from the commercial facilities of older communities, should find it incumbent, as their wants increase with the growth of the population, and the accumulation of wealth permits the indulgence in more luxurious habits, to examine their undeveloped resources for the means of supply, is the teaching of a correct public economy.

Hence the question of soil, adaptation of climate, and the available supplies of labor with which to grow the raw material of both the articles of first necessity and of luxury, must be considered before conclusions can be drawn as to the capacity of a country to support a large and permanent population in a condition of continuous prosperity, exempt from too exacting a tribute to foreign trade.

Next in importance to the cost of its food, is the annual expenditure of a people for clothing and the other various uses to which the textile fibres are put after being made into cloths for bagging, tents, ship sails, carpets, and general household furniture and upholstery; and were an inventory at any time to be taken of the two values, it would doubtless be shown that the sum total invested in textiles would greatly exceed the cost of the esculents. From this it may be seen how much the wealth of a nation is affected by the production within its territory of its requirements of woven fibres. A nation, however, may be only a purchaser of raw materials, and, by becoming its manufacturer, still derive a considerable share of prosperity from the enterprise. This is seen in the history of the cotton, silk, and woollen manufacture in Great Britain, where neither cotton nor silk is grown, and wool but in limited quantities. Were Great Britain the grower of the raw material she spins and weaves, how vastly greater would be the accumulated profits to her people. The United States are very large producers of both cotton and wool; and the writer, in the course of this article, will endeavor to show that within her limits there is a vast region that has both the atmospheric and metereological conditions requisite to constitute her the greatest silk producing country on the globe.

The production of textile fibres has been deemed of such vital importance to the people of California that the Legislature passed an Act offer-

ing very large bounties to those producing the first of a given quantity of the several textiles, to be exhibited before a Board of Judges, of which the Governor of the State is President. The sum total of bounties offered by the Legislature reaches the sum of one hundred and eleven thousand two hundred dollars, irrespective of the annual appropriation of four thousand dollars to the State Agricultural Society, besides one thousand dollars each to the four district societies, and five hundred dollars each to the county agricultural societies, to be expended in premiums for articles the product of the industry of the people of the State. The Act of the Legislature contemplated the production in the State of nearly all the great staples of everyday necessity, as well as many of the luxuries, which put every clime under tribute to furnish supplies.

The reasons why cotton culture in the Pacific States will never be a successful industry, except in a few localities in the southern part of California, will effectually explode all visions that this side of the continent will ever become a formidable rival of the Gulf States as a grower of cotton textiles.

COTTON GROWING IN THE PACIFIC STATES A FAILURE FROM METEOROLOGICAL CAUSES.

No plant in the vegetable kingdom holding so important a relation to the necessities of mankind, requires so pampered an existence, both in the nourishment it must obtain from the soil and the required condition of the atmosphere, in order that it may reach its most perfect development and maturity, as does the cotton.

Sensitive to cold in the extreme degree, if the spring is excessively wet the young plants will have a yellow, sickly hue, and maintain a precarious tenure of life, until the summer solstice has deeply and effectually warmed the earth about its roots. The States and Territories on the Pacific slope, to which I design my observations to apply while treating of cotton culture in this paper, have the meteorological phenomenon of a wet and dry season, each occupying with rigid exactness an equal portion of the year. The wet season commences in November, and terminates in May. During this period there is a low temperature of the atmosphere, so that, with the frequent and often copious showers of rain, the earth becomes cool and stores up a supply of moisture against the impending six months of drought. This coolness of the atmosphere and soil, while favorable to the cereals and grasses, is, in the reverse ratio, detrimental to the cotton plant. Of a large number of plants growing in different portions of the State, which I have examined, not one of them had a healthy appearance until after the close of the rainy season. The close of the rainy season is succeeded by cold, dry winds, which have the effect to dry the surface of the ground; this checks the growth of the surface roots and induces the sending down of a single strong tap root in all of the annuals. Plants which procure their sustenance chiefly from a tap root, spindle up with a corresponding stem, quite as devoid of vigorous side branches above the surface of the ground as they are of lateral roots below it. This is the condition in which the cotton plant is found in the beginning of the season in California. The object of the cultivator should be to induce the emission of vigorous side branches at as early a period in the season as possible, as it is on these he must expect to find the earliest maturing bolls. The emission of strong lateral branches on the cotton plant is greatly promoted by frequent warm rains during June and the early part of July, a climatic

phenomenon unknown in the Pacific States. The cotton plant is mainly a surface feeder, which seeks its nutriment from the debris of decaying vegetation of the previous year, as it undergoes rapid decomposition under the heat of a tropical sun and a constant immersion of rain and dew, and in all stages of its growth makes enormous demands upon the soil and atmosphere for supplies of food.

The plant, starting on its career in California under unfavorable conditions, continues to meet, at every stage of its existence, a meteorological phenomenon no less disadvantageous. The climatic condition so inimical to the health of the plant consists in the certain recurrence of a low temperature throughout the night, succeeding the high temperature generally prevailing throughout the day. In nearly all of the interior districts, protected by ranges of hills from the cold winds and fogs of the ocean, the average temperature at noon may be set down at eighty degrees Fahrenheit, while in the same localities at midnight it will have fallen to sixty degrees. This extraordinary variation continues throughout the summer season, and is accompanied with dry, parching winds, which rapidly extract the moisture from the surface of the soil as well as from the foliage of the plants, shrivelling the leaves so that their valves become choked by minute particles of dust, thus checking respiration, or stopping it altogether. The leaf of the cotton plant is endowed with uncommon absorbent functions, and in countries where there are copious warm night dews, it will thrive vigorously without rain. Dews, however, seldom fall in California, after the close of the rainy season, beyond the region penetrated by the ocean fogs. From this it may be seen that the Pacific States have neither the periodical rains nor dews requisite for the nourishment of the cotton plant. It may be contended that the absence of rain may be remedied by artificial irrigation. This may be true of California, where the means of irrigation on a large scale are obtainable at moderate cost. But passing this objectionable mode of supplying a deficit in nature, there can be no artificial way devised by which to compensate for the absence of nightly dews. Even could this difficulty be obviated so as to get the plant started in a condition of promise, there is still, later in the season, an opposing meteorological condition to be met which no expediency of art can overcome or modify; so there will at last be an insuperable obstacle to successful cotton growing in the Pacific States. This phenomenon consists in the arid atmosphere which prevails during the period while the bolls are expanding and bursting open.

The cotton fibre is formed by the hardening of the milky secretion hermetically sealed in the green boll, the rind of which is of a tough, elastic consistency when approaching maturity, and is divided from the stem to the apex by a number of sutures, held together by a natural glue. When the fibre begins to mature, the bolls change from a green to a dull, grayish brown color, and it is at this period that a favorable climatic influence is required more than at any other time of its growth. If the weather is dry, with an entire absence of nightly dews, the bolls open with difficulty, and the staple will be found harsh and uneven. A warm, moist, soft atmosphere keeps the rind of the boll pliable, so that its fullest expansion takes place while the fibre is acquiring its finiteness, thereby enabling it to form regular layers, and giving it a silky consistency. Where this soft, moist condition of the atmosphere prevails, the rind of the boll will commence opening at the apex, the glue being dissolved by the night moisture, so that several divisions of the shell will roll outwardly and below the point of intersection at the base, thus leav-

ing the cotton free to be plucked without the fingers of the picker being forced against the rind. Where the atmosphere is dry, as it is in all the Pacific States and Territories, with the exception of those portions exposed to sea fogs, the bolls of the cotton plant will be irregular in shape, and the fibre consequently uneven in texture. Nor can the bolls readily open, because the glue which holds the joints of the rind together becomes only partially dissolved; hence it may be observed, on examination, that the sharp points of the rind project amid the expanding fibre, so that it will be difficult to pick it out, because of its entanglement in the pieces of the rind, as well as from the pain inflicted upon the fingers of those engaged in gathering it.

Cotton may be grown with a fair amount of success in the southern part of California, where the climate is warmer and of a more even temperature than in the middle and northern portions; but even there it cannot be made to compete with the Atlantic and Gulf cotton growing States, either in the quality of the staple produced, or in the price at which it may be profitably grown.

Even in the Atlantic and Gulf States there are climatic reasons why certain localities produce a better grade of cotton than others. The character of the soil on which the plants are grown has less to do with the character of the product than atmospheric influences. Take the sea island for illustration. It nowhere compares in fertility with the delta of the Mississippi. Yet the sea islands produce the most valuable cotton grown on the globe, while in the delta of the Mississippi the staple is scarcely up to a fair average of American cottons. The sea islands possess more fully every requisite of climate for the perfection of cotton growing than any other locality in America. They have an evenness of temperature, with warmth and moisture nowhere else found in the same degree. Efforts have been made to grow the sea island staple in various portions of the globe, without success, except it may be in a limited locality near the mouth of the Nile. Nor can this unequalled, long, silky textile be produced anywhere else than on the American sea islands until natural laws can be changed.

As a further illustration of the atmospheric influences which affect the cotton plant, it may be remarked that the most precarious cotton region in the cotton States is that lying along the banks of the Mississippi River. The waters of this great affluent remain cold, from taking their rise in snowy latitudes, until they reach the Gulf of Mexico, continuing in this condition until well into summer. Hence there is a low temperature given the atmosphere near its banks during the night. This often keeps the cotton plant in a backward state in the spring, predisposing it to the attacks of the army worm and other enemies.

Regarding the present high price of cotton fibre as temporary, rather than to be permanent, the cultivation of this textile does not promise to be either extensive or remunerative in the Pacific States and Territories; and however desirable it may be to have sufficient produced in those localities for the consumption of the resident population, climatic reasons will be found an insuperable obstacle to even a partial success in this industry.

FLAX AND HEMP IN THE PACIFIC STATES.

If the meteorological condition in this region is unfavorable for the cultivation of cotton, it might be supposed that there should exist a congeniality for flax and hemp, because either of these textiles will thrive

under climatic influences unfriendly to cotton. Both flax and hemp, however, demand one of the pre-requisites of climate which must be had by the cotton plant—moisture. But cotton requires a high temperature with moisture, while flax and hemp succeed where the mercury falls so low that the cotton plant will have a yellow sickly hue.

Flax in Ireland and Germany, and hemp in Kentucky, Missouri, and the empire of Russia, succeed best on moist, alluvial soils, near large bodies of water, where there is a moderately low temperature during the night. Alluvial soils, and the requisite low temperature, are obtainable in large districts on the Pacific coast, and both flax and hemp make a large growth of straw wherever cultivated upon them. From this it might be inferred that both of these textiles could be grown in the Pacific States to supply the local demand, and even for export.

The production of the straw of flax and hemp is only a small part of the cost of the textile, and is the least difficult labor in the whole enterprise. The most critical operation is the rotting process. This not only requires skill and judgment, but for its thorough and perfect accomplishment we must have the aid of regular copious dews, or the facilities to rot it in artificial tanks. The process of hackling so as to separate the fibre from the hault or woody parts, though tedious, is not affected by climatic influences. In the Pacific States there are no dews of certain regularity, such as would accomplish the rotting of the woody parts of flax and hemp sufficiently to enable the separation of the fibre; nor are the facilities for water-rotting to be had except in limited supply, contiguous to the localities where the textiles would be grown. Indeed, the only favorable situations for growing the straw, having facilities for water-rotting at hand, are the table lands on the San Joaquin and Sacramento rivers; but these, owing to frequent inundations, would render the investment of capital in their cultivation precarious, until some general and costly system of reclamation shall have been adopted.

The absence of dews, and the inconvenience of providing the means to water-rot the straw, are only incidental obstacles in the way of success in flax and hemp husbandry in the Pacific States. The real, insuperable difficulty in the way to success will be found in the fact that neither flax nor hemp has a textile fibre of any value when grown in the dry brazen climate of the Pacific slope. Noticing the brittleness of some green hemp which I found growing wild along the mining canals of El Dorado County, I was led into an inquiry as to the character of the fibre on flax, hemp, and a large variety of plants indigenous to the country, whose related species have a fibrous tendency in climates where there are periodical rains, and, to my surprise, I found the same indisposition to clothe itself with a fibrous cuticle prevailing among all the vegetable tribes.

It is remarkable how quick the annuals disappear in California after the first heavy rains in the fall. A swamp of mustard which, before the rain, will be found impassible even to the wild Spanish horses and cattle, no sooner becomes soaked by the first showers in the fall than the tree-like stems snap to the merest gusts of wind, and what was shortly before an impassible barrier to man and beast, will lie prostrate, rapidly decaying into debris to nourish the young vegetation which immediately shoots up to take its place. This is but the condition of all the annuals, and especially so with the grasses, and the straw of the cereals. All vegetable substances in this climate have a proneness to become brittle towards maturity, and even the basket willow loses its pliability; and all other varieties of woods, whether indigenous or transplanted from other cli-

mates, fail, when grown here, to have that elasticity and toughness which give value for mechanical purposes.

This lack of fibrous cuticle on the annuals, and the brittleness of the stalk, must be attributed to the dryness of the climate during the growing season, as but little rain falls after vegetation starts, and none while it is in process of maturing. Hence, in place of a fibrous bark, which vegetation acquires in countries exposed to periodical rains, the cuticle of the same plants in a dry climate is a glutinous substance. Thus, all species of vegetation are enabled to resist the strong winds which prevail in all arid climates, until this gluten is dissolved by the rains of the wet season, when, as before remarked, it rapidly decays, and becomes a vegetable mould to enrich the succeeding generations of vegetable life.

The early Spanish colonists discovered among the natives of the country only a single species of vegetable fibre of which they made any use, and this was an indigenous hemp, of which they manufactured no other article than their rude fishing nets; and this, too, was grown about the Tulare Lakes, probably the most humid locality in the country. If the climate had been favorable to the growing of vegetable fibres, should we not expect to find among the aborigines textile fabrics manufactured from the same into articles of utility and necessity? One of the most attractive features of semi-savage or barbarian life in Central America, or among the myriads of the Oriental tribes, is the domestic thrift occasioned by the ingenuity of the people in working vegetable textiles into clothing and all manner of useful implements. Where this is to be seen, however, there is an accompanying moist climate. To this phenomenon may we not ascribe their success in growing vegetable textiles? If we look at the character of the climate required for the most successful production of our own great textile fibre—cotton—we find it comprised within the limits of the Gulf of Mexico and Cape Hatteras, a region having a more regular and copious isotherm than any other of equal extent.

Comparing, then, the climate of the Pacific States with the climates of the countries where cotton, flax, and hemp are produced in greatest perfection and abundance, little encouragement offers for the production of these great staples of commerce in the Pacific States as a successful competition, and it is questionable whether the attempt to grow sufficient for the wants of the resident population will be a correct public economy while natural laws are so insuperable an obstacle to success.

ANIMAL TEXTILE FIBRES IN THE PACIFIC STATES AND TERRITORIES.

However much the climate of the Pacific may be lacking in the elements which conduce to the successful culture of cotton, flax, and hemp, this vast region is fortunately blessed with other resources which amply compensate the foregoing deficiencies.

Its capacity for the grazing of sheep, and other fleece-producing animals can hardly be estimated. Not only is the herbage abundant, and of a quality suited to the nature and habits of sheep and goats, but the climate is so mild and equable, and the atmosphere so pure, that animals attain here their most perfect development in form and size, while they also retain a remarkable degree of health; notwithstanding their gregarious habits and the conformation of the country, they are often herded in vast flocks.

The perfect adaptation of the country to wool growing was long since

exemplified by the enterprise of the Mission Fathers, who could procure no other textile with which to clothe the hordes of rude savages which they collected at the various mission establishments. Indeed, the fact that the Fathers no more cultivated cotton, flax, and hemp, than had the natives of the country, is cumulative evidence that textiles of vegetable growth could not be successfully produced. Hence, with that singular intelligence which rendered every enterprise the Mission Fathers undertook a practical success, they at once commenced sheep husbandry on such a scale of magnitude that, in no long time, the rude inhabitants who flocked to the missions were clothed in garbs more fitting their advent among those of Christian civilization.

The extent of sheep husbandry conducted by the Catholic priests at the missions may be realized when it is stated that at seventeen of the establishments located on a line near the sea coast, and extending from San Diego to San Francisco, a distance of about five hundred miles, there were, in eighteen hundred and twenty-five, the period when the missions were at their greatest height of prosperity, an aggregate of one million three thousand nine hundred and seventy sheep. This does not include the flocks of sheep owned by the rancheros, which were, doubtless, quite as numerous as those possessed by the church. Besides sheep, there were grazed at the missions enumerated eighty-eight thousand four hundred and eighty-four horses and mules, and one million one hundred and eighty-eight thousand three hundred and ninety-six head of cattle, while, within the same narrow strip along the coast, private rancheros herded far more numerous droves.

This wonderful exhibit of pastoral industry was all contained in a limited district of California, because at that time the great San Joaquin and Sacramento Valleys, the country north of San Francisco Bay, and the foothill regions of the Sierra Nevada, were in the occupancy of the hostile tribes of savages. This thrift, too, marks the last decade of Spanish vice-regal dominion in California, and its subsequent rapid decline may be traced from the commencement of Mexican misrule, when the rich accumulations of the Mission Fathers fell an easy prey to irresponsible military and civil official rapacity.

When the United States took possession of the country, it was seen that a quarter of a century of Mexican misgovernment had been sufficient to accomplish the ruin of the missions, by the annihilation of nearly every vestige of the remarkable industry planned and put in successful execution by the sagacity, courage, and perseverance of the priests, and in no other feature was the destruction so total and disastrous in its consequences to the helpless Indians as was the sudden extinction of their sheep husbandry. By this, the hordes of savages who had been gathered around the missions, looking solely to the Fathers for food and clothing, were deprived of their only source of supply, and having acquired scarcely any other feature of civilization than dependence and some of its worst vices, were, when thrown back to savage life, swift victims of hunger and nakedness, disappearing from view as if swept from the earth by an all devouring pestilence.

The sudden rise and temporary prosperity of sheep husbandry under the care of the Mission Fathers, was owing to a local exigency in which commercial considerations had no influence. The isolation of the country from the outside world was a bar to all thought of foreign traffic. The Mission Fathers reared their flocks of dumb brutes, scarcely more dumb than the people they were trying to christianize, solely for the purpose of obtaining a textile from which to fabricate garments for the savages,

as an auxiliary means of proselyting. And it is this very isolation from the commercial world which caused so sudden a disappearance of a great agricultural industry. Brief, however, as was its existence, it rose to such a magnitude as served a great purpose. It left a history full of significance to an energetic race following shortly afterwards, and bringing in their advent commercial necessities as fixed as natural laws. This new race is re-establishing sheep husbandry in California on a basis so firm and enduring that no adventitious circumstances can accomplish its ruin.

The following extract from an article written by James E. Perkins, Secretary of the California Wool Growers' Association, will be found interesting as a comprehensive review of sheep husbandry in the State, from its settlement by Americans down to the year eighteen hundred and sixty-three:

"For several years after the settlement of this State, the opinion prevailed very generally that sheep could not be raised here to any profit for their wool. It was argued that the extreme heat of the summer and the dry food on which they must subsist for a large part of the year would tend to produce a fleece so light and thin as scarcely to pay for shearing. Under this impression, those who owned or purchased sheep, looked only to the market for mutton for their outlet and profit.

"Scarcely anything but the native or New Mexican sheep could be found, and these, worthless as they were, were still further debased by crossing with some Chinese rams, which were imported about the year eighteen hundred and fifty-two, or three. The only recommendation either of these classes of sheep possessed was their prodigious fecundity, the ewes often bearing triplets, almost invariably twins, and sometimes five, and even seven lambs at a birth. In size, form, constitutional vigor, and disposition, they were the perfection of all that is undesirable, while their fleece rarely exceeded two or two and one half pounds of coarse, uneven, kempy wool, suited only to the very lowest class of fabrics, scarcely worth the cost of sacking and transporting to market. Yet it is from this basis that our stocks of the present day have mainly sprung, and we owe to it the demonstration of the suitability of our climate and grasses for the raising and keeping of the superior classes to which we are now approaching.

"During the years eighteen hundred and fifty-two, three, and four, quite a number of Missouri and a few Ohio sheep were driven across the plains, and towards the latter of those years, some fine importations of Australian sheep were received, all of which found a ready sale at remunerative prices. Most sheep raisers, who have been long in the business, can well remember when the possession of a very ordinary American ram was considered a most fortunate thing, and half-breeds, that is, crosses of American rams on Mexican ewes, were eagerly sought for.

"The immense increase of sheep raised in the State, and the continued introduction of immense droves from New Mexico, very shortly brought the stock of mutton sheep fully up to the demand from the butchers, and threatened, at no distant time, to be so largely in excess as to reduce prices far below the cost of production. As early as the year eighteen hundred and fifty-four, some of our most enterprising sheep raisers anticipated this result, and believing that a climate and range on which the poorer breeds seemed to thrive so well must answer equally as well for the higher classes of sheep, and that they could be raised here for the fleece alone, set about the importation of thoroughbred merino rams

of Vermont and New York. To Messrs. Curtis and McConnell, of Sacramento County, belongs the credit of the first importation of the Vermont, or generally designated, Spanish merino. Both these gentlemen are now dead, but they lived to see and reap the fruits of their foresight. Other importations of both French and Spanish merino stocks rapidly followed, as also of Cotswold, Leicester, and Southdown. Large numbers of Australian rams and ewes were brought in, and all sold at extreme prices. Before the year eighteen hundred and sixty there was scarcely a flock in the State that had not some infusion of improved blood from these importations, and the character of California wools began to exhibit a percentage of improvement scarcely less than the increase in quantity, until, at the present day, an unmixed flock of native sheep is by far more rarely met than were improved flocks in eighteen hundred and fifty-six.

"A glance at our estimated wool clips for the past ten years will show the rapid increase and the important position already attained, viz:

Estimated product of wool in pounds.

Eighteen hundred and fifty-four	175,000
Eighteen hundred and fifty-five	360,000
Eighteen hundred and fifty-six	600,000
Eighteen hundred and fifty-seven	1,100,000
Eighteen hundred and fifty-eight	1,428,350
Eighteen hundred and fifty-nine	2,378,250
Eighteen hundred and sixty	3,260,000
Eighteen hundred and sixty-one	4,600,000
Eighteen hundred and sixty-two	5,530,000
Eighteen hundred and sixty-three	6,857,000

"In eighteen hundred and fifty the census reported our wool product at about five thousand pounds; but it was not until eighteen hundred and fifty-four that it attained sufficient magnitude to obtain notice in the list of exports. That year we shipped one thousand one hundred and twenty-seven bales. The following table shows the extent, in bales, of our exports for each year since, viz:

Export of wool in bales.

Eighteen hundred and fifty-five	2,487
Eighteen hundred and fifty-six	3,924
Eighteen hundred and fifty-seven	6,664
Eighteen hundred and fifty-eight	6,496
Eighteen hundred and fifty-nine	10,570
Eighteen hundred and sixty	12,082
Eighteen hundred and sixty-one	15,984
Eighteen hundred and sixty-two	22,113
Eighteen hundred and sixty-three	18,146

"A considerable portion of the wools shipped this year has been in pressed bales, weighing from five hundred to eight hundred pounds each, the ordinary bales heretofore averaging from two hundred and fifty to three hundred pounds each.

"Of the entire export up to the year eighteen hundred and fifty-six, probably nine tenths was of the native breed, originally poor enough, and sent forward in such abominable condition as still further to depress it in the estimation of dealers and manufacturers; and prejudices were then formed against California wools from which they have not yet recovered. The rapid increase of our exports of wool is beginning to attract the notice of eastern manufacturers, and already California is looked to for a respectable portion of the yearly supply."

PRESENT CONDITION OF WOOL GROWING.

Sheep husbandry in California, under the stimulus of a commercial demand for wool, has been attended with more than the success and failure which usually accompanies the impetus given all new enterprises by prospects of large gains, so attractive to every class of Americans. In this State, however, the business of sheep husbandry has been mainly conducted by two classes of persons—the capitalist, who invested his money in large flocks, and residing in the city or town, gave no personal care to them, but intrusted them to hired shepherds whose qualifications were not of a high order; and those who commenced with limited means and remained with their flocks, devoting all their abilities and increasing profits to the business as a specialty. Few persons engaged in cereal farming have as yet entered into sheep rearing as a part of their operations.

Short as the time has been since sheep husbandry, under the system of improved grades of wool, was commenced, it has been quite long enough to discourage the capitalist who devoted nothing to the enterprise but his money, and it is probable that, at this time, nearly every one of these has sold off his flocks and abandoned the speculation in disgust. This, however, should not be considered an unfavorable indication with reference to the climate and pasturage of the country for wool growing—it should be considered as in no wise discouraging. Those persons who invested capital in large flocks of sheep and intrusted their management to ignorant, uninterested employés, argued that because the Mission Priests conducted sheep husbandry on a large scale with stupid Indians as shepherds, there ought to be no failure where, at a later day, a more intelligent race of people could be employed for this purpose, overlooking the fact that the Mission Fathers lived in the midst of their flocks, giving them their constant, watchful, intelligent oversight.

The persons who alone have met with a large degree of success in sheep husbandry in California are those commencing with a limited number of sheep, or, by uniting personal superintendence with the investment of capital, have followed the example of the padres, and remained with their flocks. The largest proprietors of pure merinoes in the State can look back only a few brief years, when, with weary steps, they followed their dozen or two of pure bloods from the rising to the setting sun, camping in their midst at night in the solitude of wide stretching prairie; and now they may sum up the results of their patient, persevering efforts in flocks which will number tens of thousands. It is doubtful, however, if the accretion of forty or fifty thousand sheep in the hands of a single proprietor is correct public agricultural economy,

or will, in its entire results, be profitable to the owner. Under favorable circumstances, the year's gains may be satisfactory; but, should a season of drought, such as occurred in eighteen hundred and sixty-four, take place, the difficulty of subsisting so many animals in a restricted district must be attended with great losses from starvation, while even in the most favorable seasons epidemics are liable to break out in large herds, and from an inability to treat individual animals for the infection before it becomes wide spread, the entire flock may be decimated. It would be a better policy for the farmers of the State to adopt a more diversified farming, for among a greater division of interests wool growing could be made exceedingly profitable.

ALL FARMERS SHOULD BE SHEEP GROWERS.

There are many reasons why every farmer would find it profitable to keep a small flock of fine wool sheep on a farm where grain is the principal crop. By raising his own mutton, a large saving is made in the butcher's bill; the sale of the wool will bring ready money just before harvest, when it is most needed to conduct the farming operations with celerity and economy. Nor are these the greatest benefits to accrue from a system of mixed farming, in which sheep raising has its appropriate share. Sheep are the best scavengers which can be put on a field after the grain is cut, to clear the land of weeds, while their droppings are a far better fertilizer than the debris of stubble and litter they consume, which otherwise would have to be ploughed under to decompose. In a country like California, where the noxious herbage tends to a rapid usurpation of the soil, the services of sheep are invaluable to keep the land from being overrun by poisonous weeds.

When sheep husbandry shall become, in the Pacific States, a part of every farmer's operations, we may look for a much higher standard in the grade of wools there produced, as it will be in the power of the small herdsmen to cull out the worthless or inferior animals, and to retain, for breeding purposes and the fleece, only such as are of superior quality. It must not be inferred, however, that the large herdsmen are indifferent in the matter of breeding; they are constantly improving their flocks. In no wool growing country is there, probably, more expense and painstaking incurred in the attempt to obtain animals of the best points for breeders, both male and female, than in California; but this must necessarily be limited to such animals as are kept for special breeding, as, where flocks number tens of thousands, the matter of pairing the male and female so as to secure an improved offspring, is, in a great measure, impossible.

SHEEP STARVATION IN THE PACIFIC STATES.

With a cool, healthful climate throughout the districts lying between the Sacramento and San Joaquin Valleys and the shore of the Pacific Ocean, there is no season of the year throughout this vast sheepwalk when animals are liable to receive injury, either from an excess of heat or cold, nor are winter rains so severe as to cause the death of the most delicate, where ample supplies of forage are stored, so as to give a small feed of hay during the short season between the destruction of the old grass by the rains, and the appearance of the new. Favorable as this appears to be for the prosecution of sheep husbandry, yet the losses throughout this region during the year eighteen hundred and sixty-four

were, in the aggregate, one third of all the sheep within the district, and caused solely by starvation. It should be remembered, however, as a mitigating circumstance, that this year was one of extraordinary drought, and it brought to light, in a very forcible manner, the improvidence of the stock growers of the Pacific States, as nearly every one was caught without a pound of hay stored up against such a contingency. Even in years of plenty, the losses by death and shrinkage, from a short supply and the bad quality of the food which sheep are able to pick up out on the range during the inclement season between old and new grass, are always very large. This could be avoided by a little attention to the cutting and stacking of hay in the spring, when the grass is abundant. This most inclement season of all the year is the period when the female is in gestation, and if subjected to a low and scant diet, will be in bad condition for parturition, and afterwards to suckle her young.

The annual shearing takes place in the spring, at a time when the animal is in good condition, with an abundance of food to keep it so for some months afterwards; hence the fibre of the new growing fleece comes out of the cuticle strong and of even texture. But if starvation overtakes the hapless animal, the skin shrivels as the sheep declines in flesh, and this materially affects that part of the staple then pushing through the cuticle, rendering it weak and uneven. Subsequently, as the animal again has access to an abundance of nourishing food, and recovers in flesh, the fibre resumes its first strong, even condition, but there will be a weak spot in the middle, caused by the famishment of the sheep. Such wools are greatly deteriorated in value, on account of the weak spot in the fibre; because, however fine the staple, if it is not even it is unfit to be spun and worked into the finest cloths.

ANNUAL MIGRATION OF SHEEP BENEFICIAL.

Among the lessons taught the wool growers of California by the excessive drought of eighteen hundred and sixty-four, was that of the benefit of migration. The absolute impossibility of keeping alive their vast herds in the valleys and coast districts, led many sheep owners to adopt a plan similar in some respects to the Spanish custom called the *mesta*. The great merino flocks of Spain are wintered on the plains of Estramadura and the lowland provinces, where the climate is so mild that the grazing is good through that season, but on the approach of hot weather, about the first of May, they are made to take up their annual line of march for the elevated mountain ranges. The journeys are made in vast flocks, comprising often fifty thousand in a *mesta*, subdivided into divisions of ten thousand each, and the space travelled over frequently reaches a distance of three or four hundred miles. By this means the sheep are always retained in a temperate climate, avoiding the extremes of the summer heat on the lowlands, and the severity of the winter on the mountains.

The value of the Sierra Nevada range has been little understood by stock growers until the past season of drought in the valleys and coast districts. Many stock growers fled from the famine on the plains to the mountains with their flocks and herds as from a pestilence, and this migration which began in necessity was so advantageous in its results that it is likely to become an annual custom. The cattle and sheep driven to the elevated pastures on the Sierra, not only found an abundance of nutritious grasses, but the fine climate was so favorable to

animal life that they were returned to the valleys when the snow compelled their removal, in the best of condition.

A particular flock of merinoes, numbering five thousand, which were being tended on a share of the increase, by two intelligent young men, were driven from the Coast Range to the Sierra Nevada, and pastured through the summer, and again taken to the coast at the approach of winter. This lot of sheep were culled out of a flock of forty thousand, and not a good average lot, many of them being sickly. Going away inferior, they came back superior to any five thousand which could be selected from those which had been summered in the valley. Their improvement over the flock remaining through the summer on the plains was doubtless owing more to a change of diet than climate, as none can be more equable and favorable to the health of sheep than the coast districts.

Added to the nutritious grasses was the great variety of the coniferous tribes, with their resinous properties, to which the sheep had, at all times, unrestrained access, the medicinal benefits of which were abundantly apparent.

There are vast ranges in the Coast Mountains, on both sides of the Sierra, where herds have not yet been grazed, to which stockgrowers would do well to drive their herds in the summer, and thus enable them to save the forage of the valley for winter use, adopting thus, to some extent, the custom so long in vogue in Spain, which alone enables her sheep growers to profitably conduct this great branch of agricultural industry.

THE GREAT CENTRAL BASIN FOR SHEEP GRAZING.

Eastward of the Sierra Nevada, and extending twelve hundred miles to the Rocky Mountains, are wide stretching deserts, narrow, fertile, circuitous valleys, enclosed by hills and mountains, covered with rich grasses and other herbage, dividing the whole territory into a multitude of natural divisions. With an average breadth of more than a thousand miles, this great sheepwalk extends from our southern border on Mexico to British Columbia on the north. A great deal of the soil consists of alkaline flats and desolate sand drifts, covered with sage brush; but there are, bordering on these, natural meadows, of coarse, wholesome grasses, while the hills and mountains, ever present to the view, are covered nearly to their rocky summits with the finest pasturage. In the future this will be especially designated as the great pastoral region of the American nation, not because there may be a demand in distant markets for the wools which it may produce, but for the reason that the mines of the precious metals, sown thickly in every hill and mountain, will attract to this part of the continent a dense population for their development, which must find its chief supplies of food and clothing from the produce of the herds grazed in their midst. Thus, in a great measure, will be settled the difficult problem of transportation for these nearly inaccessible regions. The result of the industry of the population in the great interior basin, being reduced to bullion, will place the manual labor employed in all co-operative branches on an equable basis; hence, as the transportation to the commercial centres of the bullion, by ordinary modes of conveyance, will not be onerous, people who make the production of the precious metals the basis of their collective industry will be more favorably situated than those engaged in that species of agriculture which must seek a distant market over a costly transporta-

tion. The production of wool, and its manufacture into articles suited to the wants of a frontier population, is rapidly assuming importance among the industrial employments in the Pacific States, and the time is not far distant when the export of woollen fabrics will be a large item in their favor.

SILK CULTURE IN THE PACIFIC STATES.

Before the writer commenced the preparation of this paper, he obtained a promise for the history of his experiments from a gentleman, a native of France, who had been engaged in silk culture in that country, and has, during the past five years, devoted a large share of his attention to the same occupation in California. Indeed, he wrote, in reply to my request for full particulars of his operations in silk culture during these five years of his experiment, that he had prepared a long letter upon the subject for my use, which embodied a brief but full history of his experience with silk culture in this State, but upon reflection he had concluded not to publish anything on the subject for at least five years—not, as he stated, because he was dubious on the subject, or had thus far met with such doubtful success as to discourage, in the least, its further prosecution; on the contrary, his most sanguine expectations had been more than realized. I quote a sentence from this letter, in which he says: "I have made the culture of silk in California a grand success, but, except yourself and a few others, nobody believes it. I shall now, for a few years, keep my information to myself and get the benefit, and prove, at last, that as we have cotton growing States, we, also, shall have silk growing States."

It may be well to state that this gentleman is as yet the only silk-grower in California, and as he is receiving orders from France for all the eggs of the moths he can raise, his threatened silence upon the subject for the next five years is probably accounted for. It was my expectation that his promised article would have comprised all I intended to publish in this paper. His reticence, however, necessarily compels me to the alternative of passing in silence one of the most interesting of the textile fabrics, or of trusting to memory for whatever facts connected with silk culture which came under my observation when, at various times, I have been, through the courtesy of this gentleman, permitted to inspect his cocoonery, and heard from his lips many particulars concerning his management of the silkworm. Regretting that the valuable information in his power to contribute to the public good concerning one of the great industries should be withheld from publication, the writer trusts that when this impatient son of Gaul shall have become mollified by a more credulous public, and many shall become as enthusiastic on the subject of silk culture as he is, it may be his pleasure to communicate to the Department of Agriculture the desired information. The writer trusts that, however great his poverty in personal experience as a silk-grower, he may be able to state some facts in regard to the adaptation of this industry to the Pacific Coast which may serve to direct attention to this subject.

INTRODUCTION OF THE SILKWORM OF RECENT DATE IN CALIFORNIA.

In searching the old mission orchards, we nowhere find the mulberry tree among the rich collection of the fruit bearing species. This absence may be taken as conclusive evidence that silk culture formed no part of

the varied industry introduced and conducted by the padres. I have already shown that they produced the textile fibre of wool in such abundant supply as to enable them to clothe the hordes of naked savages who were gathered about the mission establishments. Thus it would seem that articles of utility rather than of luxury received encouragement at their hands. Nor can there be found in the written history of the missions anything showing that the priests were any more aware of the unequalled adaptation of the country, by reason of the climate, to produce silk, than there is to found a surmise that they knew of the wonderful deposit of the precious metals in the soil on which they stood, which, like silk culture, awaited disclosure and development by another race. Silk culture, however, has not as yet arrested the searching, restless eye of American enterprise; and after fifteen years of occupation, when nearly every source of wealth has been explored in the rush for gain, there appears only one solitary individual in the State engaged in silk culture, and this one endeavoring to "hide his light under a bushel."

If we look at the progress of silk culture in other countries, it ceases to be a matter of surprise that so little attention has been given the subject in a young community, isolated from manufacturing centres. The production of silk in such quantities as to place it within the reach of every member of the community was not accomplished until the introduction of labor-saving machinery had so far relieved manual labor of the drudgery incident to ill paid toil that the emancipated laborer not only craved the indulgence of his more refined and elevated tastes, but found himself in a condition to obtain possession of luxuries before within the reach of the wealthy only.

The silkworm—*Bombyx mori*—was introduced into Europe from China in the year one hundred and sixty A. D., and it was not until after the lapse of fourteen centuries that its cultivation became firmly established as one of the great industries of the nations bordering on the Mediterranean Sea. In eighteen hundred and twenty-five an attempt, commensurate with the usual large expenditure attending English enterprises, was made to introduce silk-growing into Great Britain. A company called the "British, Irish, and Colonial Silk Company," was formed, with many leading statesmen among its members. This company established extensive plantations of mulberry trees in England and Ireland, but, after thirteen years of costly trial, dissolved their association and abandoned the enterprise as a failure.

During the latter period of the existence of the English company, the *Morus multicaulis* excitement seized upon large numbers of persons in the United States, involving great outlays of money in the propagation of the trees to feed the silkworm, but speedily ending in a failure which involved thousands of persons in hopeless bankruptcy. With these two stupendous failures in silk culture, occurring simultaneously in Great Britain and the United States, it should not be expected that the immediate descendants of a generation so disgusted with an industry which promised largely in theory, but was so barren in practical results, could easily be led into an enterprise about which the agricultural literature of both countries spoke disparagingly, and while there was still living a cloud of witnesses to cast upon it opprobrium.

SUCCESS IN SILK CULTURE A QUESTION OF CLIMATE.

If a proposition were made for the formation of a company to grow the sugar cane (*officinarum*) in England or the northern United States, the

dullest person applied to, before taking stock, would be apt to inquire if the climates proposed were suitable for success, which at once involves meteorological considerations.

Had this English company substituted thorough investigations into the habits and requirements of the silkworm before making their large outlays of capital, they doubtless would have discovered that a climate subject to excessive moisture from fogs, frequent showers, and often long protracted storms, had natural obstacles to silk culture which could be overcome by no appliance of art. Add to this discouraging feature an accompanying phenomenon of nature, the presence of explosive electricity, and the question of the successful culture of the silkworm in Great Britain or the United States would be settled in the negative.

All herbaceous food, when saturated with an excess of moisture secreted while in a growing condition, becomes injurious to animal and insect life. This is especially and peculiarly the case with the silkworm. Copious rains, with a continuance for days and weeks of a cloudy atmosphere, have the effect to surcharge the leaf of the mulberry with a watery, viscid, poisonous consistency, which, if fed to the worms, affects them with a kind of cholera, from which nearly the entire stock of worms thus fed will sometimes die within a few hours. It takes about six weeks for the silkworm to pass through its four periods of moulting after hatching, to be in readiness to spin its cocoons, and in order that the leaves shall be in a proper condition, there should be no rain for one or two weeks prior to the time of hatching. Thus there are required seven or eight weeks of rainless skies, in order that the silkworm may enjoy its brief existence in perfect health.

Explosive electricity, incidental to rainy climates, coming suddenly and at uncertain periods, is, perhaps, more fatal in its effects upon the silkworm than any malady caused by bad food. The shock of a single stroke of thunder often destroys vast numbers of worms in a few moments, affecting them with a kind of apoplexy. The phenomena of rain and explosive electricity, prevailing with greater or less severity in the climate of Europe and the Atlantic States, is, I apprehend, one of the chief obstacles to complete success in silk culture in those countries, as it is palpably evident that in those seasons most exempt from rain and thunder during the season of feeding the worms, the best results are obtained.

THE CLIMATE OF CALIFORNIA PECULIARLY FAVORABLE TO SILK CULTURE.

My friend, the Frenchman, has said: "We shall have silk growing States." If an isothermal locality, entirely destitute of rains from May to November, with a meteorological condition in which there is no explosive electricity, should seem to be favorable, then the prediction that we shall have silk growing will some time be verified. Enough is already known to warrant large outlays of capital in the Pacific States in the establishment of this lucrative and fascinating industry. During five years of experiment with the silkworm in California, the party engaged in it states that he has never discovered a diseased worm except from accidental wounds or being bitten by ants, neither of which dangers are serious when proper caution is exercised in placing the legs of the tables on which the worms are fed in vessels containing water, thereby preventing the ant from gaining access to them.

The leaf of the mulberry being sufficiently matured by the first of May to feed the worm when first hatched, and continuing succulent until

November, there are six months in which the business of raising the worms may be conducted; and allowing six weeks for each set of worms to mature, there can be raised four perfect crops in a season.

The worms, in the cocoonery spoken of, are fed by cutting the small branches of the mulberry tree from one to two feet in length and laying them on the tables in the form of a triangle, this being done twice each day, the successive layers forming quite a pyramid before the worm has accomplished its moultings and is ready to spin the cocoon, which it is permitted to do among the pile of dried sticks from which it has stripped the foliage, or it is given a cluster of sticks or a bundle of dry mustard stalks for that purpose.

Cocoons raised in California and sent to France for examination have been pronounced of superior excellence, and on measurement were found to give an average of four hundred yards of silk to the cocoon, exceeding European cocoons by from fifty to one hundred yards. It was argued from this fact that the worms must have enjoyed robust health; hence the eggs produced by the moths would be of superior excellence for breeding purposes in the silk raising districts of Europe, where the worms, owing to various maladies, had become deteriorated. Large orders for silkworm eggs have been received in California from the silk growing establishments in France, and a limited quantity, sent as far as possible by an overland route, reached their destination in good condition, and the expectation that they would produce worms superior in health to the diseased progeny raised from the feeble stock of the cocooneries of Europe has been realized.

Throughout large districts of the State there are moist lands, some in course of reclamation for agricultural purposes, where the mulberry would flourish equally as well as the willow as a hedge for fencing. On such lands the mulberry could be planted as a stool, from two to three feet apart each way, and cut down as wanted for the worms, as is the practice in Hindostan. From two to three crops could be taken annually. In some of the vine-growing districts, the vineyards are surrounded with live willow fences. If the *vigneron* would substitute the mulberry he would get rid of a vermin-breeding nuisance, and by allowing an occasional tree in the hedge to grow up, so as to fruit, he would have something for the birds to feed on after they have exhausted the supply of insects, thereby saving his grapes, besides the means of raising so large a quantity of silk that would challenge the returns from the vine in the season's results.

That the pabulum elaborated in the stomach of the silk worm, from which it spins its fibrous inclosure, is of a superior character in the dry climate of California, is unquestionably due to the perfect maturity of the mulberry leaf on which it feeds; hence it may be expected that the silk will be of an even and strong texture, and of unequalled lustre. Much time, however, must necessarily elapse before silk culture will attain importance in the Pacific States, as the mulberry trees are not yet planted by which any considerable number of worms can be fed, nor are they likely to be propagated until old, deeply seated prejudices against silk culture shall be uprooted by discussion, practical demonstration, and unwearied effort on the part of those who, by making the subject a specialty, at last find the usual reward of the pioneer in all public benefactions—thankless, unrequited service.

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BEST MODES OF CULTIVATING THE GRAPE IN CALIFORNIA.

BY COL. A. HARASZTHY,

MANAGER OF THE BUENA VISTA VINICULTURAL SOCIETY'S VINEYARDS, SONOMA.

In accordance with my promise, I give you a description of the present mode of my planting new vineyards, and the way of bringing the old plantation from eight feet to four feet apart. Some ten years ago I planted my vines eight feet apart, and advocated this distance as well verbally to my neighbors as in my essays. The reason for doing so was that the native Californians had planted from five to eight feet apart. This mode then seemed to me a good one, there being a plenty of land. Economy in ground seemed to be useless; besides, it was advantageous to cultivate vines planted this distance with two-horse ploughs. Nevertheless I experimented with close planted vines, but of course it took years before these trials could be conclusively tested. In eighteen hundred and sixty-one, when I was sent Commissioner to Europe by the State of California, I visited many of the Imperial Vinicultural Gardens; among the rest that of Dijon, in France; as well as those on the Rhine, and at Wiesbaden. I found that at Dijon, for twenty-six years, experiments were made in the garden with close plantations and wide, beginning sixteen feet, and coming down to one foot. The grapes were each and every parcel separately weighed and made into wine; and it proved that invariably the closest plantation gave the best and most wine. The same result was ascertained in Wiesbaden, and by many private individuals throughout Germany and France. The people all adopted close plantations. Throughout the famous Burgundy district all vines are planted one foot apart; in the Medoc, three feet between the rows; and in the rows from one to two feet. In Hungary two feet between rows, and eighteen inches in the row. Italy and Spain, where but little progress is made, are the only countries where vines are planted far apart; and your readers well know that their wine is not celebrated. But even there a few individuals have begun close plantation, and produce a better wine. The above named facts convinced me that my theory of wide plantation was wrong; still, on my arrival at home, I kept trying my experiments, and found in time that California is no exception in this respect. The intelligent vine grower has no doubt found that if he permits his vines to bear too heavily they do not develop sufficient saccharine matter, nor do they color well; that is, instead of being a very dark blue they will be pale—a kind of mulatto color. Of course there are soils of very rich quality which will make exception to this; and if the vine is pruned to few grapes the vintager has a great deal of land to cultivate, and gets but little wine. Besides, it takes five or six years before all the vines are bearing. During all this time the cultivation of the acre of land having six hundred and eighty vines is going on at a great deal of expense. The annexed tables will give a clear insight to your readers. Both of these calculations are from actual experience.

Close plantation, four feet each way, containing two thousand seven hundred and twenty-two vines.

Third year, 1,500 to bear out of 2,722 vines, $\frac{3}{4}$ lb., is 1.125 lbs. It takes for one gallon first quality wine, 15 lbs. grapes, yielding 75 gallons at 40 cents, amounting to.....	\$30	
Third year, second quality, 35 gals. for brandy, 20 cents.....	7	\$37
Fourth year, 2,000 vines, $1\frac{1}{2}$ lbs. or 200 gals.....	\$80	
Second quality, 100 gals.....	20	100
Fifth year, 2,200 vines, 3 lbs., 440 gals.....	\$176	
Second quality, 220 gals.....	44	220
Sixth year, 2,400 vines, 3 lbs., 480 gals.....	\$192	
Second quality, 240 gals.....	48	240
Seventh year, 2,600 vines, 3 lbs., 520 gals.....	\$208	
Second quality, 260 gals.....	52	260
Eighth year, 2,700 vines, 3 lbs., 540 gals.....	\$216	
Second quality, 270 gals.....	54	270
Ninth year, the same, 540 gals.....	\$216	
Second quality, 270 gals.....	54	270
Tenth year, the same, 540 gals.....	\$216	
Second quality, 270 gals.....	50	270
Total produce of eight years, from one acre.....		\$1,667

Plantation eight feet each way, containing six hundred and eighty vines to the acre:

Third year, 340 vines bear $\frac{3}{4}$ lb. to the vine, 255 lbs., 15 lbs. to one gallon, 40 cents.....	\$6 80	
Second quality, 8 gals.....	1 60	\$8 40
Fourth year, 500 vines, $1\frac{1}{2}$ lbs., 50 gals.....	\$20 00	
Second quality, 25 gals.....	5 00	25 00
Fifth year, 600 vines, 3 lbs., 120 gals.....	\$48 00	
Second quality, 60 gals.....	12 00	60 00
Sixth year, 640 vines, 5 lbs., 213 gals.....	\$85 20	
Second quality, 106 gals.....	21 20	106 40
Seventh year, 670 vines, 8 lbs., 358 gals.....	\$143 20	
Second quality, 179 gals.....	35 80	179 00

Eighth year, 675 vines, 360 gals.....	\$144 00
Second quality, 180 gals.....	36 00
	<hr/>
	\$180 00
Ninth year, the same.....	180 00
Tenth year, the same.....	180 00
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Whole produce for eight years from one acre	\$918 80
	<hr/>
Difference in favor of close plantation.....	\$748 20

This is a considerable difference in the income of a man who has a vineyard of one hundred acres. But the reader will see still another advantage in the close plantation, namely, that the income is a great deal more in proportion in the first, second, third, and fourth years, than in the eight feet plantation, where the income only increases towards the end of the calculation. And for a new beginner, it makes a great difference whether he gets, per acre, in the first three years, thirty-seven dollars, or only eight dollars and forty cents; in the four years one hundred dollars, or only twenty-five dollars, and so on.

But I am told that the cultivation with hand labor costs so much more. This is erroneous. First, vines four feet apart can be cultivated with horses and ploughs more easily than corn or potatoes; second, even if persons would wish to cultivate with hand labor, the cost is not more. Annexed is the expense of the Buena Vista Vinicultural Society, for one hundred acres of vineyard planted eight feet apart; however, at that time grain was three cents per pound:

Six horses, grain for six months, fifteen pounds per day each, three cents per pound	\$486
Twelve tons hay for six months.....	240
Pasture and hay for six months.....	124
Three Chinamen drivers, working six months.....	468
One man the balance of the year.....	157
Hoeing and suckering	125
Pruning, etc.....	300
	<hr/>
Total	\$1,900

The society made layers during the winter of eighteen hundred and sixty-five in its old vineyards, bringing the vines from eight feet to four feet, the layers being bent from the old vine into a ditch dug in the ground close to the vine, and brought out four feet from the old stem. Of course, for the first year, the vine remains attached to the main vine, consequently cannot be ploughed. The cost of one hundred acres of vineyard of this description was as follows:

Pruning.....	\$350
First hoeing with fork-hoes, very deep, and spading.....	1,000
Second hoeing and suckering.....	400
Third hoeing and suckering.....	100
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Total	\$1,950

But this expense includes officers' salary, wear and tear of tools, while the calculation by horses does not. The work is superior to ploughing, and no vine gets ruined entirely, or cut, which is often the case with bad ploughing.

But we must consider the culture of the vine, not only as carried on by wealthy companies and rich private individuals, but also by men with small means who wish to embark in this so well paying branch of industry. What a chance for such individuals! what a difference between them and the grain or stock farmer! A man engaged on a grain farm needs at least one hundred and sixty acres to make a living. To fence this in California, it requires cash for material, as lumber, posts, and nails, in a favorable situation, outside fence, and division fence, at least one thousand dollars, besides his labor; one pair of horses, harness, wagon, harrows, ploughs, hoes, spades, grain and hay for his horses, seed for his land, provisions for eight months—another one thousand five hundred dollars, or in all two thousand five hundred dollars. In any other country but California, a man who possesses two thousand five hundred dollars considers himself well off. In this sum, however, no price for land is included—this he gets from the Government, if he finds any left. Now, how is it with the man who has no such sum as we have stated? What is he to do? and what can he do? He can plant a vineyard with very little capital; what does he need?

First of all a pick, a crowbar, a shovel, a spade, an axe and wheelbarrow, and one year's provisions. He goes to work, rolls the rocks out of his way into a fence, inclosing ten acres therewith, or with chaparral and brush, as either of the two are good for fencing wine lands, and he will usually have plenty of them to make his fence. This done, he hires some neighboring farmer to plough up for him this land, and exchanges work for him in harvest time; or, if no such chance exists, he goes to work, digs his holes, plants his vines; when finished planting, then he hoes the space between the vines with fork hoes. It is hard work, but industrious men, anxious to get an independent home, will do hard work. The planting and cultivating his newly planted vines will not take him more than half the year; the balance of the time he can work out, and earn enough to supply him with provisions for next year. He annually increases his plantation; in the third year he has a small income, enough to buy his provisions, and in course of six years this man will be independent, with an income of a couple of thousand dollars, and worth in property from ten to fifteen thousand dollars. This is the difference between the farmer and the vintager; one can begin with nearly nothing, the other needs at least two thousand five hundred dollars. These are not imaginary things, but facts. I had a case of this kind myself. Thomas, an industrious German, hired out to me in eighteen hundred and fifty-eight. Prior to this he and another man entered into partnership, took up some mountain land of the Govern-

ment, and his partner stayed on the land. They planted a vineyard and cultivated the same. Thomas worked for me, the money he earned was used to buy for the partner provisions, tools, etc. In this way they went on to improve. The partner got the mining fever, sold out to Thomas and left. Now Thomas went on the vineyard to cultivate the same, and when he could spare time, he went to work for others. In this way he made a living until his vineyard began to bear, when he was all right. Thomas has now about thirty acres of vineyard, makes the best wine in Sonoma, and is worth at least fifteen thousand dollars, with an income of about two thousand five hundred dollars per annum, increasing all the time. He has now brought out from Germany his sister and her husband, and is a well-to-do man. Such chances are open for a million of men in California.

Mr. Editor, it is with pleasure that I draw attention to a class of people who are by circumstances poor, or with but limited means, but are honest and good, and deserve to have happy homes. This is the class of people that enrich the State, and the country, and Government, generally honest, industrious, and frugal, always ready to defend the country, whether native or adopted.

But I have wandered from my design, namely, to give you an account of my present mode of planting vineyards, whenever I have to do it on a large scale. To make it more intelligible, we take one hundred acres, plant the rows forty feet apart; in the row the vines are planted four feet apart; this will plant the first year twenty-seven thousand two hundred and twenty on ten acres of ground, and roads included, twelve and a half acres to cultivate; second year nothing is planted, but the above vines cultivate; third year the same; but now this winter, from each vine two layers are made, the layers are carried from the row, one each way, four feet, in a ditch, and the top brought above ground and pruned to two buds; these layers and the main stem will bear this year. This operation is repeated every year with the exception that now but one layer is made from each vine; the whole is completed in seven years, so that in the named time the one hundred acres are closely planted with two hundred and seventy-two thousand two hundred vines. The advantage of such plantation is this: that a person in the first three years cultivates only the equivalent of ten acres, and after that he increases twenty acres every year; but these twenty acres will bear the very year when he makes the layers, and so he cultivates only paying vineyards. The Buena Vista layers gave the last year two and a half pounds of grapes in average. The mode is simple, and has the advantage of needing no replanting, as layers never miss. The following calculations will prove to you the economy of the new method. Both calculations below are reckoned upon the same basis.

Planting one hundred acres, by layers, four feet apart each way, when seven years old:

Planting ten acres, at \$30 per acre.....	\$300
Cultivating three years.....	600
Making all the layers, 272,200, 1½ cent each layer	4,083
Cultivating fourth year, \$20 per acre.....	800
Cultivating fifth year	1,200
Cultivating sixth year.....	1,600
Cultivating seventh year.....	2,000
Total	\$9,583

Cost by the old way of planting:

One hundred acres, \$30 per acre.....	\$3,000
Cultivating seven years, \$20 per acre per year.....	14,000
Total	\$17,000

In favor of the new mode, seven thousand four hundred and seventeen dollars on one hundred acres; but the produce annually is still more in favor of this mode of planting.

ESSAY ON THE CULTURE OF WHEAT AND BARLEY.

By HENRY GADDIS, OF GRAFTON, YOLO COUNTY.

Having been requested to present my views on the above topic in the form of an essay, I would say in the commencement that I feel unable to do it justice, notwithstanding its interest to me, and therefore enter upon it with some reluctance. I am aware that a large portion of the farmers of this State seek for knowledge upon this most important branch of agriculture, and that others have written upon it; consequently my opinions may not be regarded as original. They are, however, my own views, derived from my own experience, which, I believe, in most cases is a better guide than mere theoretical knowledge.

That portion of the farm which is devoted to the culture of wheat and barley should be ploughed with a good turning plough, not less than six inches deep, turning the furrows so close as to prevent the growth of grass or foul weeds. The work should be done in the month of February, or at the latest, in March, during the growing season of the year, when nature is in active and full operation, and before noxious weeds have time to mature their seeds. It not unfrequently occurs, on land of great natural fertility, that a single ploughing is insufficient to prevent the growth of its indigenous productions. There is danger, especially if the ploughing is succeeded by copious showers of rain, that the natural weeds will grow again during the summer, and the land become "foul." In such a case it might be supposed that an additional ploughing would well repay the labor. But California farmers will perhaps object to this, on account of the high price of labor in this country. It is evident that we cannot grow grain and weeds simultaneously without allowing the growth of the weeds to impede that of the grain. In such cases it will be found advantageous, and even necessary, at least to harrow the land with a heavy double V harrow, or what is better, to plough it with a four-horse plough cultivator, as soon as weeds make their appearance. The land should be in such condition as not to require ploughing in the fall before seed time. The process above described is called *summer fallowing*, and is usually regarded as the basis of good husbandry wherever tillage is best understood. By no other means can clay soils be so well pulverized and disintegrated, and it will, I am confident, in a few years become an almost universal practice on the upland

plains in California, and to which it is peculiarly adapted. On the alluvial soils bordering on the rivers and streams, the method above described may be dispensed with. If the ploughing were performed a few weeks before sowing, similar results might follow, or if a fallow crop were planted, as potatoes, corn, etc., the repeated tillage which should precede its maturity would leave the land in excellent condition for grain.

The soil, thus prepared, is ready for the reception of seed at almost any time after harvest, and before the rains of the next season set in. The impediments to the culture of grain may, in a great measure, be obviated by a combination of those causes that tend to produce a healthy and rapid growth, not the least important of which is the selection of good seed. The finest wheat or barley does not always make the best seed; but in the selection of seed, the circumstances under which it was produced should be considered as well as the condition of the soil on which it is to be sown. It is with cereals as with garden seeds, and with all plants and vegetables: bad and indifferent seed will grow and produce its kind, but that which is intended to produce the greatest possible yield upon a given space of ground, must be selected from the best type of its kind. The same principle which has been carried out with so much success in the production of domestic animals, will also apply to the vegetable creation, and may be adopted on the farm in the production of cereal grains. All of our domestic grains have been improved by cultivation from the wild state; "volunteer" grain is, for this reason, unfit for seed; it has begun to revert back to its native wildness, and to grow without human care. Wheat that is prone to smut, ought not to be sown. Bluestone, as commonly used, is a good preventive of smut, but when used in excess, injures the germinating power of the grain, and will not wholly eradicate the disease. A great difference of opinion exists among farmers in regard to the proper quantity of seed to be used. One of the most remarkable properties of the cereals, (and especially of wheat,) is that of sending out a great number of stalks from a single grain, known as *stooling*, or *tillering*. This is one of the causes of its great productiveness. The stooling will be the greatest on land that is in a high state of cultivation, or naturally fertile, and consequently it would seem that a smaller quantity of seed would suffice than where these conditions do not exist. Some farmers say that thirty-five or forty pounds of wheat, and sixty to seventy pounds of barley per acre, is amply sufficient. I prefer to sow not less than sixty pounds of wheat, or eighty pounds of barley, but some regard must be had to the quality of the seed in regulating the quantity. Upon finely pulverized soil, the grain drill and combined sower and cultivator are proper instruments for seeding, but they cannot be used to advantage on the greater portion of our upland plains. The harrow, although an ancient implement, will probably continue to be used as long as the present broadcast method of sowing by hand is practised. Upon sandy soils, or even upon clay soils that have been well prepared, a four-horse plough-cultivator will cover the seed better than any implement I have seen used, especially if the sowing is delayed until weeds have begun to sprout. But every farmer should understand the reasons for the operations he is required to perform. No fixed rules that can be given on paper will apply indiscriminately to every condition of circumstances. In the culture of grain, the roller is a valuable implement, and should be used as soon as convenient after sowing, and before the young grain has begun to form branches.

On light and sandy soils, it renders the surface more impacted, and thus prevents evaporation, while on clay soils it more thoroughly comminutes and levels the surface, packing the earth about the seed.

Early sowing will almost always insure a natural and vigorous growth, and as the young grain sprouts into life with the first rains, the most unpractised eye can discover a difference in the color of grain sown upon fallow ground as compared with that which is sown upon land tilled in the ordinary manner. The soil has evidently been improved by an invisible but effectual process. It has drawn fertility from the heavens, it has absorbed carbonic acid, and its mineral constituents have been freed by the oxygen of the atmosphere. As the grain approaches maturity it grows with great rapidity, and resists the attacks of extreme drought. In harvesting grain the writer is convinced, from his own experience, that it should not be allowed to remain until it is *dead ripe*, but should be cut when the straw contains sufficient sap to bring the grain to maturity, or when the kernels begin to glaze. Wheat that is harvested in this condition is unquestionably superior for making flour, and the straw contains much more alimentary and saccharine matter, being nearly as good for feeding purposes as hay. On the other hand, if cut too green, the grain will not only be deficient in weight and color, but in nutritive qualities, which in well matured plants are mostly confined to their seeds. The straw will be of better quality, but at the expense of the grain.

In this dry climate, the employment of water for irrigation naturally engages the attention of the tillers of the soil. The writer is unable to give any *rules* upon this subject, having had little experience in the matter; but there is no doubt that those who possess the *means* of irrigation have a great advantage over those who do not, and that in very dry seasons irrigation would render summer fallowing more efficacious. The waters of rain and snow, as they pass through the air, absorb fertility, and as they pass over the surface of the earth, bring with them finely comminuted and fertilizing particles of soil. But irrigation also has its disadvantages. The floods bury up and carry with them a large quantity of the seeds of noxious weeds, and when water is allowed to stand any length of time, so as to become stagnant, chills and fever, and other kindred diseases, are the almost inevitable result. The writer ventures the assertion that during a period of twelve years consecutively, from eighteen hundred and fifty-two to eighteen hundred and sixty-three, inclusive, remunerative crops of grain might have been raised in nearly all of our upland plains, without irrigation, by a more judicious system of tillage, than that which is now too commonly practised; and he is confident that even under the brazen sky of California, harvests can be produced that would be unsurpassed by those of the plains of Southern Russia or the Delta of Egypt. At first thought, it might appear as absurd to summer-fallow land in order to guard against drought as it would be to irrigate land in order to make it dry; but such is the effect, as experience has fully demonstrated. If moisture is so indispensable to vegetable life as is generally believed, whence, then, does grain sown on a naked fallow derive moisture in times of great drought? This is an interesting question, to which the writer has not yet heard a satisfactory solution. Some think it is caused by capillary attraction from the subsoil; others, by absorption from the atmosphere; but the fact having been established by the concurrent testimony of all who have tried it, it is of comparatively little moment whether we know the why and the wherefore of its operation or not. The writer's opinion is that in a well

tilled soil a combination of the above causes tends to produce the desired result. The increased porosity of the soil assists in this respect, because finely divided particles of earth retain moisture, which a rougher one would not. Water is held by attraction between minute particles of soil, when it would quickly escape from a coarser material. No system of green manuring has yet been adopted by the farmers of this State. Occasionally the natural growth furnishes a kind of substitute. Of all the varieties of Lucerne that have been suggested as suitable for this purpose, none is more likely to be adopted than the Chilian alfalfa. It is a valuable plant, well suited to the climate of the Pacific coast, and will succeed well in most cases on a naked fallow.

The practice of burning straw is extremely reprehensible, and should be discontinued. The ameliorating effects of ploughing in the debris of the threshing pile, when combined with the droppings of animals, is plainly visible in our upland plains for several succeeding years. There is too little vegetable matter in much of our grain land, even at present. Straw may contain little fertilizing matter in itself, but one of its values is in fixing ammonia. When combined with excrementitious matter, it becomes converted by fermentation into ulmic, humic, and other organic acids, which have a strong affinity for volatile alkali, and thus retain that most valuable constituent in our manure.

Our soil is rich; it is even considered inexhaustible; but by continuous cropping we carry away year after year certain known agents that are necessary to the reproduction of vegetable matter, of which some portion at least must be returned back, or farmers will learn in a few years that there is a limit to the power of nature.

A difference of opinion seems to exist among farmers in regard to deep and shallow ploughing, and the advocates on both sides seem to be fully convinced that they are right. The writer has often heard persons speak of raising good crops by shallow ploughing, and upon alluvial soils that are rich in vegetable humus, it is granted that this can be done, nor would the result of a different practice justify a farmer in pursuing it; but with calcareous and aluminous soil the case is different; such soils require deep ploughing to enable the atmospheric gases more easily to penetrate them, to render them more absorbent of the winter rain, and consequently better able to withstand the severe drought of this climate. Every practical farmer knows that on deeply ploughed soils, crops are less exposed to drought, and if ploughing is useful at all, it must be so in proportion to the amount of soil disturbed, provided that the spongioses of the crop are capable of appropriating a greater amount of soil by its disturbance. In dry weather, as each particle of moisture is evaporated from the surface, it is succeeded by another, until the whole soil is filled with the ascending moisture. Deep ploughing thus turns the drought to good account, the filtering process is reversed, or, in scientific parlance, capillary attraction is increased. The farmer in the fable, whose will has been so often quoted as having informed his sons that he had buried a sum of money somewhere on his farm, conferred a greater benefit upon them by the disturbance of the soil than he would have done by the supposed legacy. The subsoil plough should be an implement in common use, instead of being a mere curiosity, as it is at present. It is a serious defect in our California husbandry that so many farmers are in the habit of skinning their land an inch or two deep, as if to avoid the primeval curse, (Gen. iii, 19,) until the impacted subsoil becomes impervious to the rains and to the rootlets of the young grain, and the Sheriff is ready to turn many of them out of doors. Indifferent culture and rude hus-

bandry are, indeed, sometimes rewarded to a certain extent, but it does not necessarily follow that ignorance is essential to success. Too many of our farmers have practised, if they have not pondered well, upon the sentiment contained in that passage in the Book of the Wisdom of Jesus the son of Sirach: "How can he get wisdom that holdeth the plough, and that glorieth in the goad, that driveth oxen, and is occupied with their labors, and whose talk is of bullocks?" (Eccles. xxxviii, 25.)

The extent of a man's acquirements in agricultural skill may depend very much on his taste and aptness; but the farmer should be familiar with those ordinary laws which affect and penetrate our daily and hourly business and life. He may not be an analytic chemist, but he should be familiar with those laws, the observance of which is indispensable to safety and success, and the defiance of which is destruction. Physiology, too, opens a wide field of study for the farmer, for in the observance of its laws depend the life, health, and growth of all animal and vegetable nature. The study of the veterinary art is also well worthy of the farmer's attention. A knowledge of the principles of natural philosophy, as illustrated in mechanics, the laws and uses of the wonderful motive agencies of the age, the best methods of construction and economy of materials, open further ranges of useful inquiry to the farmer.

Thus the field of research has no boundary. New subjects, each in itself sufficient to engross years, constantly crowd upon the attention. When all human knowledge on the subject has been mastered, the greatest truths remain unknown. Who can determine the elements of a single grain of wheat, and take of those elements and form one single grain that shall germinate and produce its kind? Who can tell the process by which a single flower blooms? Such occult mysteries are beyond our comprehension.

The ideas herewith presented may be considered erroneous by some. They are the writer's own; nevertheless, it is not pretended that they are oracular by any means.

IRRIGATION IN YOLO COUNTY.

STATEMENT OF JUDGE J. H. HUTTON, OF CACHEVILLE.

The Cacheville Agricultural Ditch is taken from Cache Creek, five miles above the Village of Cacheville, where the main ditch terminates. Entire length of main ditch, five miles, with lateral branches of say thirty miles in length, constructed in the spring of eighteen hundred and sixty; width of ditch, fifteen feet on the bottom; fall, one half inch to the hundred feet; capacity of ditch, about sixty-eight cubic feet.

ADVANTAGES OF IRRIGATION.

The fact is clearly demonstrated that the Sacramento Valley cannot be relied upon as an agricultural section without resorting to artificial means of irrigation; and experience has abundantly proven, that, by irrigation, the soil in this valley will produce everything in the way of grain, hay, vegetables, fruit, etc., equal in quantity and quality, to any other section of the State.

It has been found by practical experience that the advantage to crops by irrigation are as follows, as nearly as can be ascertained: that in the most favorable seasons the yield of small grain, and especially such as are late sowed, may be increased by a judicious system of irrigation, from one quarter to one third in quantity; in ordinary seasons from one third to one half, and in the dryest seasons, when the crops fail entirely without it, by irrigation we get the ordinary yield, say from thirty to fifty bushels per acre. And as to corn, vegetables, and fruit, which cannot be successfully produced without irrigation, are by it grown in great abundance, and excellent in quality. As to the proper or best time to irrigate, there seems to be a difference of opinion upon that point among those that have experimented. Some are of the opinion that for grain-raising the best time to irrigate is in the spring; say the months of March and April; while others believe that in the fall, or early part of winter, before the land is ploughed or the crop planted, is the better time. But in my judgment it would seem to be immaterial as to the particular time, for in any year, if the land is flooded and well saturated, any time from the first of November to the first of May, it warrants a good crop of grain. So it would seem that the particular time of irrigating is not so important, but as a matter of economy where there is

not an abundant supply of water, it would be well to commence to irrigate in November and continue until May, so that all might be supplied with water, and perhaps equally benefited.

In regard to corn, the land should be thoroughly wet before planting, then with proper cultivation and one time irrigating, say in June, will warrant a good crop. So with fruit trees; once thoroughly wetting the land, say in May or June, is sufficient to warrant a good crop of fruit. Vegetables, of course, should be irrigated as occasion may require.

In regard to the cost of irrigating lands, no definite amount can be stated as a universal rule, for the reason that it depends entirely on the lay of the land and the character of the soil. Land that is level, with a smooth surface and clay soil, requires much less water than land that lays with a rapid fall, an uneven surface, and sandy soil, and hence the cost must necessarily vary. But the farmers in this vicinity who have experimented for the last five years, agree in saying that where land is properly prepared, that the average cost will not exceed one dollar per acre, at four dollars per foot for twenty-four hours for water, which is the price charged by the Cacheville Agricultural Ditch Company for water from their ditch. In eighteen hundred and sixty, the year the ditch was completed, there was irrigated about five hundred acres; in eighteen hundred and sixty-one, one thousand five hundred; in eighteen hundred and sixty-two, five hundred; in eighteen hundred and sixty-three, one thousand two hundred; in eighteen hundred and sixty-four, one thousand; in eighteen hundred and sixty-five, one thousand five hundred acres.

STATEMENT OF U. WYCKOFF, OF WOODLAND.

I. N. HOAG, Esq.,
Secretary State Board of Agriculture:

SIR:—In compliance with your request, I send you such matters in reference to irrigation that have fallen under my observation.

The amount of land irrigated during the year eighteen hundred and sixty-five does not fall much short of five thousand acres. The amount of land that might readily be reached by our ditch is near twenty-five thousand acres; and if the ditch was put in good condition, would have sufficient capacity to irrigate the most of this, if the lands were prepared to receive the water, and applied at proper season. Last year was more than the average in the supply of rain, still the increase of crops throughout the neighborhood was at least twenty per cent. I know one piece of land that was irrigated, then ploughed and sowed, which yielded sixty-five bushels of barley to the acre; land that has produced but one crop that paid the expenses for the past ten years. This case, in my opinion, showed an increase of fifty per cent in a year, which was better than an average, thus proving that there are some lands that may be benefited even in the best of seasons. I am fully of the opinion, that however favorable the season may be for some land, there are those in the same neighborhood that may be so greatly benefited that the crop throughout will exhibit an increase of at least twenty per cent. Therefore, I deduce that even in good seasons, an irrigating ditch through a

section of land like the one in which I live, Woodland and vicinity, will make an increase in the productions of twenty per cent; in ordinary seasons from thirty to fifty per cent; in seasons like eighteen hundred and sixty-four, one hundred per cent.

A crop that yields twenty bushels per acre, or less, gives no profit to the farmer, all being consumed in its production. Therefore, whatever is added by irrigation in such cases, should be the measure of value to the farmer, and must lead him to admit that his profit has been wholly made by irrigation. The certainty that the farmer would have of making a crop every year, sufficient for his feed and seed, should be a conclusive argument for the construction of ditches to irrigate all lands possible.

There are other reasons that present themselves. The farmer usually gets through hauling off his crop in September. Now (should he have the opportunity) in October he might put water upon twenty or forty acres of land, which, in a few days, is fit to plough. When that is finished, he irrigates more, and thus when the rain comes, and the season for seeding, he finds his work half done for the winter, and well done, for his land has been fertilized.

This mode of operation enables the farmer of small means to perform more of the labor himself, as the season for ploughing has been lengthened, thus avoiding so much hired labor found necessary when the crop has to be put in during the short time usually enjoyed for ploughing. When the land has been wet down to the moisture below, in this neighborhood, we have not failed to make a crop; therefore, the land irrigated early in the season, having the benefit of the after rains, will make a good crop without further irrigation.

Water is a fertilizer. It matters not how limpid it may flow from the mountains, it holds in solution those ingredients so necessary for a vigorous and perfect growth of the cereals. This county might be made one of the most certain to make a crop in the Sacramento Valley, for it may obtain water for all the land needing irrigation. It needs much less capital than many suppose; but the difficulty will be found mainly in the concentration of mind, there being such a diversity of opinion as to the best mode of obtaining the water.

I trust that the present Legislature may do something towards obtaining a subsidy in lands from the General Government, to assist in reclaiming some of the arid lands in the north part of our county, and in other parts of the State. These lands must remain unproductive and yield no revenue to the State, if not reclaimed from their sterility by furnishing them with water. The utility of water for the purpose of irrigating lands is no longer an experiment, but a thing proven.

I am, yours,

N. WYCKOFF.

CASHMERE GOATS.

Stockton, December 15th, 1866.

I. N. HOAG, Esq.,
Secretary State Board of Agriculture:

DEAR SIR:—At your request I give you my experience with Cashmere goats. My efforts have been attended with some little difficulty, but not on account of any disease; for if they are subject to any disease, it has not made its appearance in our flocks. In the spring of eighteen hundred and sixty-one, I purchased two thoroughbred Cashmere bucks of Richard Peters, of Atlanta, Georgia. I shipped them to Leavenworth in a box. There I sheared them, and tied them behind a wagon, and led them to Stockton. I allowed them to graze at every stopping place, and did not haul them to exceed fifteen days on the entire trip. Eight days after I arrived at Stockton I exhibited them at your State Fair, showing a fleece of ten and a half inches in length—the growth of a few days over five months while crossing the plains.

In the fall of eighteen hundred and sixty-one I purchased a flock of common ewe goats for breeding, but found that most of them were pregnant from common bucks, which caused an almost entire failure for the first year. The next summer one of our bucks was bitten by a snake, and died of the effects. The other is still alive and doing well. He weighs one hundred and eighty pounds. In eighteen hundred and sixty-three, we raised from this one about one hundred and sixty kids—half breeds. In eighteen hundred and sixty-four we raised something over one hundred—about fifty of them being three-quarter breeds—the lambs from the graded yearlings. The extreme drought of that season compelled us to send our flock to the mountains for subsistence; and we lost many of our one half and three quarter grade ewes; so that we were set back at least a year in breeding.

This year we only had eighty-one half-breed ewes with the old buck, and we raised eighty kids of three fourths Cashmere blood. About forty of them are ewes, from which we will, by placing them to the old buck, be able to raise kids of seven eighths Cashmere blood. And we have about ninety half-breed ewes, from which we will raise three quarter breeds.

We have no difficulty in saving the kids in any kind of weather, they being very tough and hardy. The half-breeds have a fleece that covers

the coarse hair, while those of the three quarter blood have a fleece that measures four and a half to six and a half inches long, and is as fine as the pure bloods. We also have a flock of one hundred and fifty lower grade ewes, which we are breeding to our graded bucks. The kids from these will range from three eighths to five eighths blood. They show an improvement over the first cross of a graded buck with a common ewe goat. We make wethers of all low grade males, and sell their skins at from two and a half to ten dollars each, according to quality, for robes. Their meat is said to be superior to mutton by those who have eaten of it.

In regard to choosing or selecting the common ewes to breed from, those of the finest hair are the best, as their kids are superior to those from others; but the color makes no difference, as the kids all take the color of the buck. We have never had a colored kid, all being white.

In regard to food—they eat almost anything; they prefer the coarser shrubs, leaves, and buds, to finer foods. There is not much danger from dogs, as any grown buck will whip a dog.

Respectfully, yours,

WM. M. LANDRUM.

CHEESE MAKING.

STATEMENT BY SAMUEL COLE, OF STOCKTON,

WHOSE CHEESE WAS AWARDED THE FIRST PREMIUM AT THE FAIR OF 1865.

I warm milk at all seasons of the year, for this reason: if milk is not warm, rennet will not operate on it quick enough to prevent the cream from rising, the curd will not be firm, and the buttery portions of the milk will work off with the whey.

I add rennet at eighty-four to eighty-six degrees Fahrenheit, for this reason: milk has to be warmed so that the rennet may coagulate the mass firm enough to cut up before the cream rises.

I vary the heat in very warm weather, for this reason: milk in very warm weather is apt to be a little sour, (this can be detected quicker by the smell than in any other way,) when it should be warmed less, and less rennet used.

I use the German or Swiss rennet, prepared in the following way: I take four rennets and put them into a stone jar, putting one gallon of warm water and some salt on them, and let them stand twenty-four hours, when I remove them one at a time, rubbing them at the same time with the hands, to remove the strength as much as possible. I then strain the liquor through a thin cloth into another jar, and return the rennets to the jar; add more salt and two quarts of warm water, let them stand twenty-four hours, rub them as before, and strain the liquor into the jar with the other; return the rennets to the jar, add more salt and two quarts more water, let them stand as above, then rub them out and strain as before; mix the liquor all together and add plenty of salt; put it into a jug and keep it corked tight; shake up before using. One pound of this liquor will coagulate eighty to one hundred pounds of cheese.

My rule for judging the time to commence cutting up the curd is this: dip the fingers into the curd, and gently raising it out, the curd will divide, giving a smooth, glossy surface. If cut up before it gets firm, a large percentage of the richness of the milk will pass off with the whey.

I cut the curd fine by using D. G. Young's cast steel two-edged dairy knife. The reason the curd should be cut fine is to allow the whey to

escape from the curd, otherwise you will have a leaky cheese and apt to swell, as it cannot be scalded good if not fine.

I observe no particular time for cutting up the curd, only this: when the weather is cool and the milk very rich and sweet, the curd is apt to be not very firm, then it should be cut more careful and slower than in warm weather, when it will be observed that it coagulates quicker and is more firm than in cool weather.

My rule for beginning to heat up the scald is this: I let my cheese stand fifteen minutes after I get it cut fine enough; by that time the whey has settled and has become quite clear, and the curd has hardened a little, so, by stirring it when I begin to scald, it will not start the white whey; the time occupied in raising is from forty-five to sixty minutes, according to the condition of the milk; if a little inclined to be sour, less time can be used; if scalded up too quick, the cheese is apt to swell and leak whey.

I use O. O'Neil & Co.'s patent vat and heater. Heat is applied to scald by pipes connecting the heater with the water vat, the milk vat being placed within the water vat. A space is left for hot water, and when the right heat is obtained it is easily shut off by two cut-offs in the pipes leading from the heater to the water vat; (I recommend this to all who are in the cheese business.) I use one hundred degrees of heat to scald. There can be no clock time determined to keep the curd in the whey after the scalding heat is obtained; it all depends upon the condition of the milk. If the milk is very rich, and the weather cool, so that the milk keeps a long time sweet, the curd must remain in the whey much longer than when the milk is not so rich, and the weather is very warm, and the milk a little inclined to sour.

I vary my rule for scalding according to the condition of the milk and the weather, as stated above.

I tell when my curd is scalded enough by pressing a portion of it in the hand; if it makes a squeaking noise, and has lost its shiny appearance, and when relieved from the hand will crumble up fine and not remain in a solid mass, it is cooked enough.

I separate the whey and the curd by drawing the whey off at one end of my vat, through a curd strainer made of perforated tin, raising one end of the vat when the whey is mostly out, so that it may drain off as much as possible before salting. I get the whey out as much as possible before salting, and salt when warm.

I use A. B. Winnager's first premium salt, two and a half pounds to one hundred pounds of curd; apply it to the curd by sprinkling it over it when warm, and work it in thoroughly.

I put the curd to press as soon as it is cool. If put to the press warm, it is apt to stick to the pressing cloth, and hurts the flavor of the cheese.

I press with lever power, two thousand pounds to a cheese that weighs one hundred pounds, and press twenty-four hours.

The cause of the pressing cloth adhering to the cheese, is—the curd is put in too warm and the cloth too dry; cool the curd and wet the cloth with cold water, and it will not adhere.

To color cheese to give it a rich yellow color inside, I use anotto dissolved in strong lye; boil it for a little time in a tin dish, let it settle and cool, then strain it off and put it into a bottle, and cork it tight. Enough to use two weeks may be prepared at a time; if kept much longer it is apt to give the cheese a bad flavor. This should be added at the time of adding the rennet. To color the outside, I always color the bandage cloth before I put it on the cheese. I think this the best way.

To prevent the flies from troubling the cheese, I cover them all over with cloth when I turn them in the press, and press it on, and rub it over with warm whey butter when it comes from the press, and the flies will not trouble it.

The dressing that I use on the cheese is made from the cream that rises on the whey by churning it into butter, then stewing it to an oil in an iron kettle; apply it to the cheese when warm with a cloth or brush.

The cause of cheese swelling is, as a general thing, by adding too much rennet. They will swell sometimes in warm weather if they are made too quick, which is too often the case if milk is sweet. I cannot make a cheese ready for the press in less than four hours from the time I add the rennet. If milk is very rich, and cool nights, it takes me four and a half hours. The only remedy for a cheese that swells is to keep it in a cool place and turn it often.

I always use the thermometer to test the degrees of heat.

THE RINDERPEST, OR CATTLE PLAGUE.

This disease among the cattle of the continent of Europe and in the British Isles, is becoming a very serious matter. At first it was supposed to be confined to horn cattle; but of late it has broken out among sheep, and is doing great damage. We also see it stated that it has made its appearance among the animals, of various kinds, in Paris, where they had been collected for acclimating; the zebra, deer, goats, and gazelles, being attacked with it, and numbers were slaughtered to prevent its spread. It is also found to be much more contagious than it was first supposed to be.

That our farmers may know all of the disease that is possible, we quote from the report of Professor Simonds a description of the disease. Professor Simonds was sent by the various agricultural societies of England, Scotland, and Ireland, some years since, to the German States, where the disease was raging, for the purpose of studying the nature of the disease, and the means, if any, necessary to be adopted by the Government of England, to prevent its introduction into that country; and as he is one of the best veterinary professors known, his report is regarded as very correct and valuable.

Isaac Newton, Commissioner of Agriculture, has interlined some explanations in the report, which are retained:

"Spontaneous Origin.—The steppes (prairies) of Russia are the home of the rinderpest, and here it may be said to hold almost undisputed sway, little being done by the imperial government to stay its ravages. Here, also, as has been elsewhere stated, it is alone regarded as having a *spontaneous* origin, but with what amount of correctness we are unable to say. Doubtless every disease has had its place of origin, and in it there may exist persistent causes which keep alive, so to speak, the cause of sin. Such causes may possibly be found on these vast plains of Russia, and if so, here would be the natural habitation of the pest. Be this as it may, it is certain that in these countries which are contiguous to the steppes the malady has no such origin, and its appearance in them is invariably associated with the recent introduction of steppe cattle, and generally in the ordinary course of traffic.

"General symptoms of the Pest.—When the animal sickens, the affection will be recognized by almost continuous spasmodic twitchings of the voluntary muscles of the body, more particularly those of the neck and

shoulders, and of the hind quarters. These twitchings are accompanied by tremors, which are more or less generally diffused, and which interrupt the regularity of the spasms, and give to the animal an appearance of suffering from exposure to cold. The coat stares, and the patient stands with its back arched, and its legs gathered together under the body, but does not seemingly suffer much acute pain. In the course of a few hours rumination is suspended, and the appetite fails, but water will generally be partaken of almost up to the end.

"The temperature of the body is variable, a slightly increased warmth of the skin existing at the beginning of the illness, which soon, however, gives way to chilliness of the surface, and this again to a death-like coldness of the ears, legs, and horns, as the malady advances to a fatal termination. The pulse is scarcely disturbed at first, unless the attack is a severe one, when it quickly arises to seventy or more, but wants tone in its action. In all ordinary cases, it becomes gradually more frequent in number, but less in force, and in the latter stages can only be felt at the heart.

"The respiration is but very little altered at the commencement; it rarely becomes difficult, and was never painful in any of the cases we witnessed. It sometimes rises to thirty on the second day. The contractions of the abdominal muscles are often interrupted in the rhythmic action of the spasmodic twitchings which give a singular motion to the animal's flanks, and has led some observers to speak of a difficulty of breathing as being invariably present. A discharge comes on early from the nostrils, which has many of the characters of ordinary mucus, but, when carefully examined, will be found to contain flocculi of lymph, (flakes of a clear fluid among the thick and whitish mucus.) A slight cough is also present in some cases, but it cannot be heard except one is near the patient, when it imparts a singular and almost indescribable sound to the ear.

"The expression of the countenance does not denote much acute suffering, and the eyes are without any dull appearance except in the advanced stages of the malady, when the lids are found to be drooping, as in sleep, and the ears also to be a little lopped. The vessels of the conjunctival membrane (the outer and mucous skin or membrane of the eye, and of the inner surface of the lids) are almost without turgescence, (superabundance of the mucus,) but a discharge in most cases comes from the eyes, which accumulates in a yellow, jelly-like mass, at the inner angle, and when examined it likewise is found to be composed principally of lymph.

"The bowels are but little disturbed at the very beginning of the disease, but the feculent matter, (the dung,) almost unaltered at first in consistency, is soon passed in increased quantities, and in the course of the second day diarrhoea sets in. This diarrhoea is presently followed by dysentery, which continues to the end. (Diarrhoea is a general loose and profuse discharge from the bowels, and dysentery is an inflammation of the lower and straight portion of the larger intestine, accompanied by griping, and a constant desire to evacuation.) The evacuations are not particularly offensive, but they are remarkably fluid, of a dirty yellow color, and mixed with numerous small flocculi of lymph. Occasionally a little blood stains the evacuations, and tenesmus (the urgent desire to evacuate when it cannot be done) is also present in some cases. The abdomen becomes much pinched in, and the animal's strength quickly fails him. He now keeps mostly recumbent, and rises very reluctantly. If made to move he staggers, and often falls for want of strength. The

spasmodic twitchings now begin to diminish, and for some hours before death they have entirely passed off.

"A sickly smell attends the patient, but there are no disengagements of gaseous compounds into the areolar tissue, (the loose open tissue connecting the skin and flesh of cattle particularly,) nor any other indications of the decomposition of the tissues which have been spoken of by some writers. In short, the animal dies, apparently, and almost without convulsions, from pure prostration of the vital powers. In those cases which recover, no pustules (pimples) have been observed as forming on the skin, nor any desquamation (scaling) of the cuticle, (the outer and insensible skin; that which thickens on the hands of the laborer,) or fall of the hair. Nor have any ulcers of the eyes, nostrils, or muzzle, been noticed in either extreme or protracted cases.

"*Duration.*—In all cases which tend to a fatal termination, the animals rarely live beyond the fourth day after the symptoms have shown themselves, while very many of them will sink as early as the second day. The greater number, however, die on the third day of the attack. In those which recover, some diminution in the severity of the symptoms usually takes place on the third or fourth day; and if the patient survives this time, even should the symptoms not abate, it is regarded as a favorable indication of ultimate recovery. The return to perfect health is rarely effected in less than three weeks; but much will depend on the age and constitution of the animal, as likewise on the amount of the structural disease in the mucous membranes of the alimentary canal, and not a little also on the care and attention which are bestowed upon the patient.

"*Percentage of Deaths.*—If the pest be allowed to take its natural course for only a few days, it will be found that not unfrequently the deaths number ninety per cent. Fat animals and those which are well cared for are found to bear up very badly against the disease.

"*Pathology.*—It is difficult to speak with certainty of the true nature of the rinderpest; but it is evident that the morbid matter on which it depends, having entered the system through the medium of the organs of respiration, soon acts upon the blood, by converting some of the constituents of that fluid into its own elements; and that, while this process is going on, the animal gives no recognizable indications of being the subject of the malady. This period constitutes the incubative stage of the disease. The blood having thus become contaminated, its vitality impaired, and the poison augmented a thousand-fold within the organism, (organs essential to life,) the brain and nervous systems, as the centres of sensation and motion, have their normal functions necessarily and quickly interfered with; and hence one of the earliest indications of the disease is a spasmodic twitching of the voluntary and other muscles of the body.

"The malady has now arrived at a stage when nature makes a bold effort to rid the system of the poison, and in doing this the force of the morbid matter, so to speak, falls with more or less severity upon the mucous membranes throughout the entire body. Effusions of lymph, the fibrine of the blood, take place in the follicles (open places or little sacks or bags) of the mucous membranes, as an effort, perhaps, in part, of the overtaxing of these grand excretory organs, and partly because the fibrine itself is charged with the *meteries morbi*, (morbid matter or poison of the pest,) and has probably also lost some portion of its vitality, which renders it unfitted to remain in the vessels. Dark colored blood, which remains fluid even after death from its defibrination, (the destroying the

fibrine of the blood, which is the component part of the blood that produces coagulation,) now flows in vessels, and dysenteric purging also sets in, under which, as a rule, the animal quickly sinks."

Professor Simonds arrives at the following conclusions in his report:

"That all the facts connected with the history of the outbreaks of the rinderpest concur in proving that the malady does not spread from country to country as an ordinary epizootic; and that if it were a disease exclusively belonging to this class, the sanitary measures which are had recourse to throughout Europe would be inefficient in preventing its extension, and consequently that in all probability we should long since have been both practically and painfully familiar with it in this country, as hundreds of our cattle would have succumbed to its destructive effects.

"*That it is one of the most infectious maladies of which we have any experience*, and that it is capable of being conveyed from animal to animal by persons and various articles of clothing, etc., which have come in contact with diseased cattle.

"That the ox tribe is alone susceptible to the disease; and that the morbid matter on which it depends lies dormant in the system for a period of not less than seven days, and occasionally, according to some continental authorities, *as long as twenty days*, before the symptoms declare themselves.

"That the deaths often amount to ninety per cent.

"That the malady is one in which the blood is early if not primarily affected; and that subsequently the mucous membranes throughout the entire body become the principal seat of the morbid changes.

"That all varieties of medical treatment which have as yet been tried have failed in curing the disease; the recoveries which take place having for the most part depended on the healing power of nature.

"That no fear need be entertained that this destructive pest will reach our shores. Its present great distance from us would of itself afford a fair amount of security; but when we add to this that no cattle find their way from thence directly or indirectly to the English market, and also, in the event of the disease spreading from Galicia it would have to break through hundreds of military cordons, one after the other, before it could possibly reach the *western side* of the German States, and, moreover, that for years past commerce has been unrestricted with regard to skins, hides, bones, etc., of cattle from Russia and elsewhere, all alarm, we believe, may cease with reference to its importation into the British isles."

It will be remembered that the above report was made before the disease had made its appearance in England, and the great distance and other circumstances named proved unavailing to keep the disease from that country. While our own Government has prevented by law the importation of cattle into any ports of the United States, still we may find it among us at any day, and our only remedy in case it should appear will be to prevent its spread.

Professor Simonds, in a late report to the Privy Council of England, states that "the experience already gained in this country confirms that of Europe as a whole, viz: that whenever the plague breaks from its stronghold in Russia and invades other countries, medical skill is powerless in arresting its progress by curative measures." England, on the

first of January, eighteen hundred and sixty-six, it is stated, had lost over fifty thousand cattle, and the disease was increasing rapidly. Should it appear here, we have but one remedy, and that is to *kill immediately every animal affected or that has been exposed*. When any one becomes satisfied that the disease is among his cattle, it will become his duty to *apply the remedy* without reference to loss, for as ninety per cent of those attacked die, it will hardly be worth while to attempt to save any, when such attempt adds to the probabilities of greater loss and destruction.

CALIFORNIA MARBLE.

SACRAMENTO, January 2d, 1866.

Mr. I. N. Hoag,
Secretary of the State Agricultural Society:

SIR:—In compliance with your request, I give you some information in regard to our marble quarries. The quarries from which we procure the marble known as "Indian Diggings marble," are located in El Dorado County, about three miles from the line that divides El Dorado from Amador County, twenty-five miles east of south from Placerville, thirty-two miles east of Latrobe, and sixty-two miles from Sacramento City. A branch of the new Amador road from Virginia City, Silver Mountain, etc., leads within one half mile of the quarries.

These quarries were first seen by me in the winter of eighteen hundred and fifty-three and four; at that time there was nothing to attract attention to them except the quality of the marble, which was as fine as the best Italian.

In the winter of eighteen hundred and fifty-six and seven, the solid ledges were uncovered by hydraulic mining, from which we have been taking marble since the summer following, from eighteen hundred and fifty-seven to eighteen hundred and sixty-one. We quarried only for monumental work. In eighteen hundred and sixty-one we erected a steam mill, with three gangs of saws, by which we have been able to supply the increasing demand for this material.

The marble is more easily worked, more free from iron, flint, or other outside matter, and as it is as susceptible of as high a polish as the best Italian, there is no reason why it should not, in a few years, supersede the use of imported marble altogether. For general purposes, there is no marble in the United States that can compete with it; and, as you are well aware, we have exhibited it at all the State fairs since eighteen hundred and fifty-eight, in competition with foreign or domestic production. And we have the proud satisfaction of knowing that California has carried off the palm in marble, as she has in everything else in which she has come in competition with other parts of the world.

In view of the above facts, it seems that this part of the production of the State has been almost entirely overlooked, and has not received the fostering care and encouragement from your society or the State Government that its importance demands. Knowing the deep interest that you take in developing all the resources of the State, I have placed the above at your disposal, hoping that it may assist you in your good work.

I remain, respectfully,

Your obedient servant,

ISRAEL LUCE.

MINING REVIEW FOR 1865.

From the Mercantile Gazette.

Just eighteen years have now elapsed since the grand discovery of gold in California, this event having occurred on the fourth day of January, eighteen hundred and forty-eight. We say *grand* discovery, because the existence of the precious metals, in small quantities at least, within the limits of this State, was known long before. It is a well authenticated fact that gold bearing quartz was worked at a point near the Mission San Fernando as early as eighteen hundred and forty-three, placer diggings on a small scale and with moderate results having been engaged in at a much earlier period. If tradition may be credited, the Jesuit missionaries, first inland explorers and founders of the pioneer settlements of Alta California, were well aware of the auriferous character of the country, but refrained from encouraging the business of mining as likely to distract the attention of their neophytes and ultimately defeat the purposes that brought them here. That these men, coming, as most of them did, from Mexico, should, in observing the geological resemblance between the two countries, have concluded that California abounded in the precious metals, seems a reasonable presumption, however it might have conflicted with the obligations of their order, or the objects of their mission to engage in seeking after them. Nor is it strange that the secular community did not penetrate the interior in search of these commodities, inasmuch as the region where most of the rich placers have since been found were then inhabited by tribes of hostile Indians, rendering their exploration a work of difficulty and danger, from encountering which this unambitious people were doubtless further deterred by the comparative poverty of the mines previously discovered. That the early Spanish settlers, as well as the first American immigrants to this coast should have failed to discover the gold fields lying in the then uninhabitable portions of the country, is not so extraordinary as that Fremont should at a later day have traversed them in every direction, camping often on what subsequently proved to be the richest bars along our rivers, without ever detecting the golden deposits that lay so near the surface.

This event, like many other important discoveries, was the result of accident; and though it failed, as often happens in cases of this kind, to enrich the party making it, produced at once a marked effect upon the trade, industry, and financial aspect of the whole civilized world. The energies of the nations were aroused, emigration was excited, new channels of transportation and travel were opened, and new enterprises were set on foot—every interest and department of labor being made to feel its quickening and invigorating influences.

The finding of gold in California having awakened public attention to the subject, led to its discovery soon after in Australia, and finally in Oregon, British Columbia, and elsewhere, until there is not at present a State, Territory, or perhaps even a province west of the Rocky Mountains in which it has failed to be found in remunerative quantities. The potency of this new agent in tending to revolutionize the financial and industrial affairs of the world, may be inferred from the fact that the product of the precious metals during these eighteen years, upon this coast alone, has added nearly one thousand millions of dollars to the stock previously in existence; the contribution from this source being at the rate of more than fifty millions per annum. Australia and other new sources of supply having meantime added nearly as much more, the yearly aggregate increment of bullion was suddenly augmented many hundred per cent. That this rapid enlargement of the standard measure of values and medium of exchange should be attended by a corresponding expansion of prices and an unwonted excitation in every department of business, was not only natural, but inevitable. Hence the advance in the prices of property and labor, the impetus given to every branch of industry, whether speculative or practical, and the general activity, mental and material, seen the world over, together with that love of exploration and adventure which this condition of things has tended to nourish, and which has found its most marked development in our own people; and however the business of mining may fluctuate or fail to prove remunerative in certain cases, it must always continue, as it has heretofore been, a leading pursuit, not only in this State, but upon the entire coast of the Pacific. It is even now, much as former earnings have declined, paying better average wages in several of its branches than any other occupation requiring so little skill and capital to carry it on. During the past year this business, though meeting with reverses in some localities, and retarded in others, has been generally prosperous and progressive; and notwithstanding the returns for the year may fall somewhat short of public expectation, they will in the aggregate very nearly equal those of any former season, while the prospect for a rapid and steady increase hereafter is extremely flattering.

The receipts of uncoined gold and silver in the city through public channels during the past year, amounted to nearly forty-nine million dollars, as against forty-eight million dollars in eighteen hundred and sixty-four. In eighteen hundred and sixty-three they were less than forty-four million dollars; in eighteen hundred and sixty-two, not quite forty-two million dollars; and in eighteen hundred and sixty-one, just about forty million dollars. During the last twelve months the area of our metalliferous territory has been considerably extended, while many mills and reduction works of large capacity have been put up in various parts of the country. The greater portion of these have not yet commenced operations, or been running sufficiently long to tell with much effect upon the product of the year just closed. Another season they will increase in the annual product materially. Besides this, the business of mining promises to be carried on hereafter with more system and economy, not to say honesty, than has hitherto characterized it as conducted in certain cases.

The plan of working mines with a view to enhance or depress the prices of stocks as might best serve the interests of those having control of them, is not likely to be practised to the same extent as formerly, it threatening to prove nearly as dangerous to those engaged in carrying it on as to their intended victims. That this business may

speedily be purged of this and all other abuses is greatly to be hoped, since to it we must continue to look for those large and certain revenues which have thus far never failed us, as they are not likely to do, our mines being vast in extent and literally exhaustless, while the value and amount of their productions are less dependent on the seasons, the demands of a foreign market, and other incidental circumstances, than are our cereal crops, wines, wool, and other staple productions.

Neither rain nor drought, seasons of plenty or dearth, of financial ease or stringency, can ever wholly cut off or seriously diminish the yield of our mines or lessen the value of their products. In this feature of stability, apart from the extent and prolific character of our mines, we have a fund of wealth upon which we can always rely, even should our grain crop prove short, our herds perish with famine, and all our other resources fail. But that this element may be made to yield its full measure of advantage, it must obviously be prosecuted with a more careful economy and less with a view to large and immediate than to certain and permanent results. Wherever it has been carried on in a legitimate manner, being conducted with the same discretion and care evinced in most other callings, it has generally proved a success; the failures mostly being attributable to lack of skill, extravagant expenditures, or some other sort of mismanagement.

EXTENT OF THE MINING FIELD.

We have now within the American possessions west of the Rocky Mountains, three States and five Territories, embracing an area of more than one million square miles, the whole of which may be considered a mining country. Not that every part of this vast region is metalliferous, there being large tracts of it in which the precious metals at least have not been met with in any considerable quantity. Still, scattered everywhere over its surface are districts abounding in not only these but also in nearly every variety of the useful metals; the latter, in some one or more of their varied forms, being nearly everywhere present. To what extent this region is metal-bearing has as yet been but partially determined, its magnitude and the difficulties attending exploration having precluded a thorough examination of more than a small part of it. Of that portion lying within the limits of California and Nevada, with which we have become most familiar, it can be truthfully said that the more it has been explored the greater appears to be its capacity for yielding, under the conjoint aid of well directed labor and ample capital, large amounts of gold and silver. It is now perceived that the placer mines of this State, liberally as they gave up their treasures at first to the simple and inexpensive processes employed for working them, formed but the husk and chaff, as it were, of our real and more substantial mineral wealth, hid away in the vast repositories of auriferous quartz found in every county that flanks the Sierra; while the further the work of prospecting has been carried into the wilds of Nevada, Utah, and Idaho, the richer and more extensive have been the discoveries made, establishing to all practical intents not only the illimitable bounds, but also the inexhaustible character of this field of labor.

VARIETY OF OUR MINERAL PRODUCTS.

Under this head may be noticed, as forming a portion of the more valuable of the metallic and mineral products heretofore found upon this

coast, gold, silver, copper, coal, quicksilver, petroleum, borax, sulphur, and ochre—all now objects of extended, successful, and rapidly growing mining enterprises, several of them having been from the first American settlement of the country its principle staples and articles of export. Tin, iron, lead, sulphur, alum, manganese, saltpetre, bismuth, chromium, gypsum, salt, zinc, and many other substances of less present value, are met with in different portions of the State, and generally in sufficient quantity to warrant the belief that they will become of great commercial value when labor and transportation shall be cheapened, or a market be created for them nearer home. Platinum, iridium, magnesia, the several alkalies, cobalt, arsenic, antimony, nickel, plumbago, nitre, etc., are found in many localities, and sometimes in unexampled abundance. With the different varieties of slates and marbles, chalk, lime, fuller's earth, alabaster, buhr stone, potter's clay, and like useful commodities of low value, the country abounds. The more common of the precious stones have been obtained in many places, and even diamonds of small size have been picked up in the washings of our stream-works; while, if report may be credited, a number of these gems, of large dimensions and pure water, have lately been found in the southern part of Idaho Territory.

Gold mining, which, as the leading arm of the business, first claims attention, is divided into several branches, the earliest practised being that of

PLACER, OR SURFACE DIGGINGS.

This consists in washing the loose particles of gold from the earth wherein it is contained, by the use of water applied in a variety of ways; the principal implements employed and modes resorted to being the pan, rocker, sluice, and hydraulic washing. The pan and rocker, at first universally used, have now been pretty much laid aside, except by the Mexicans and Asiatics, who find in the smaller amounts of physical exertion required for their use a strong argument in favor of retaining them. Placer mines in spots have been found spread over a wide stretch of country on the Pacific slope of the Rocky Mountains; remunerative diggings, often of great extent, have been discovered in every State and Territory west of that range. In California there is scarcely one in the eastern tier of counties, reaching from Oregon to Mexico, but which contains a greater or less extent of this class of mines; and only a few in which actual operations are not now being prosecuted. Stretching across the northern part of the State, from its eastern boundary to the ocean, and extending into southern Oregon, is also an auriferous belt abounding in this description of mines, and which for several years past, as it still does, has constituted one of the most active and profitable fields for this class of operations. In Eastern Oregon, Washington Territory, Idaho, and Montana, large districts containing these superficial deposits have lately been discovered, every year adding to their extent as these vast but hitherto little known regions become more thoroughly explored.

Near Fort Colville, and at other points on the Upper Columbia, placers have been worked for nearly ten years, and much of the time with results that would have been satisfactory but for the great expense of obtaining supplies, and trouble with the Indians, by whom the pioneer miners were much annoyed. The product of gold dust from these northern countries has for several years past been considerable, and is steadily and rapidly on the increase, the most of it being, of course, obtained from surface diggings. Considering the population, the individual earnings may not

have been large, yet the aggregate yield has been such as to show that many have done well, and inspire high hopes of the future. From some points in that quarter reports are very encouraging, and the probability is that a considerable emigration will set that way both from California and the east in the early spring. There are many things, however, calculated to deter any but the most resolute and hardy from seeking a residence in either of those Territories. In these high latitudes, more especially in the elevated portions of the country, the winters are long and severe, the snow falling to a great depth, and the cold being intense. Travel for five or six months in the year is not only difficult, but often dangerous, while nearly all kinds of work and transportation have to be suspended. Even in the summer it is an arduous business to bring in supplies, owing to the mountainous character of the country, and the long distance they have to be transported. As yet there are but few wagon roads, compelling a resort to packing, and rendering the prices of inland freights enormous. The diggings, it is admitted, are extremely spotted, and often deep, the gold not generally lying near the surface as in California. This makes prospecting tedious and difficult, and the opening of claims, even when found, a laborious and expensive business. Water is in most places scarce, many of the mines being dependent on ditches, and some so situated that they cannot be thus supplied; nor do these complete the catalogue of evils incident to this northern country; the tender fruits and crops of grain, between drought and frost, frequently being cut off, and both the grain and grass, as well as vegetables, often falling a prey to locusts and other devouring insects. The social and political condition of the inhabitants is notoriously bad, life being insecure, and property in some localities almost wholly without protection. Murder, theft, and robbery, are things of common occurrence, the country being overrun with outlaws and desperadoes gathered from both sides of the continent. While, therefore, there is much to encourage the bold and strong, and such as are capable of enduring severe toil and hardship to undertake a journey to Washington, Idaho, or Montana, there is everything to deter those differently constituted or situated from encountering so much prospective deprivation and peril.

To the placer miners of California the past year has been one of general success, the supply of water having been better than usual, and the season every way favorable. There is no question but the aggregate yield from this source has been larger the past than for several years immediately preceding, though we have not the means of ascertaining the exact amount taken out during this time. Besides the causes mentioned above, there have been others lately brought into operation tending to swell the product of this class of mines—such as larger numbers engaging in them; the discovery of new diggings; the re-opening and working over with greater care, or by improved appliances, of old ones; penetrating further into the gravel deposits; larger crushings from the cement beds, and a general enlarging of the area of the mines, coupled with a more efficient style of machinery, greater economy, and more careful manipulations of the auriferous carths.

From one extremity of our gold fields to the other we hear at least moderately good accounts of the placer diggings, giving the impression that average wages have rewarded those who have been engaged in it the past year. Beginning on the south, we find that little or nothing has been done in Arizona in this line of mining for a considerable period, owing in part to the danger on account of Indian hostilities attending any attempt at carrying on work in the interior of that Territory, where

the best paying, and so far as discoveries have extended, the only rich and extensive placers are supposed to exist, those found near the Rio Colorado some three years ago, having proved to be contracted and ephemeral, and even the more ancient washings on the Gila being found by actual tests, of no great extent. That there is a gold bearing belt reaching north and south across the centre of the country, embracing in its limits the Walker and the Weaver placer districts, situate in the San Francisco Mountains, is now well known; and though a considerable amount of dust has been collected there, its value as a gold producing region has not been definitely ascertained. A portion of it at least is but poorly supplied with water, the process of gold gathering being by dry washing, so-called; and although some flattering accounts have reached us in regard to the mineral resources of that section, it will probably be a long time before they can be turned to much practical account, owing to their situation so far inland, and the sterile and rugged character of the country between the site of the mines and the Colorado. Between the hostility of the Apaches, the dry and barren character of the country, the extreme heat of the climate, and the indifferent success that has hitherto attended the efforts made at placer mining in that Territory, there would seem to be but little encouragement for undertaking its further prosecution at present. That Arizona possesses an immense wealth in her numerous gold and copper bearing lodes admits of no doubt, though these too must be worked under many of the disadvantages incident to the development of the placer mines.

As from those of Arizona, so also from most of the surface diggings found at various localities in the several counties of Southern California, though worked with considerable persistence, only meagre results have been obtained. The placers heretofore found in that quarter consist of a narrow extent of auriferous earth in Holcomb Valley, and another on Little Creek, both in the County of San Bernardino. The former was worked out several years ago, the latter still being occupied and giving employment to a small number of persons at wages ranging from three to six dollars per day. In the foothills of the San Fernando Mountains, twenty miles northwest of Los Angeles, are the first gold fields ever found in California. They were worked to a considerable extent nearly thirty years ago, being finally abandoned only on the discoveries of the much richer deposits found on the American Fork in the beginning of eighteen hundred and forty-eight. They have even been worked some since that event, though not capable of yielding what are now considered fair wages. With these trifling exceptions, the entire area of southern California, covering nearly one half the State, is, so far as we know, without remunerative surface mines. In the Counties of Tulare, Fresno, and Mariposa, a very extensive and profitable business was at one time carried on in the placer mines; but of late years the product from that section has greatly diminished, either because these deposits have been exhausted, or because the inhabitants have possessed less energy, or possibly fewer facilities for their effectual working, than those living further north. Along Kern, King, and San Joaquin Rivers, and other smaller and parallel streams cutting the foothills of the Sierra Nevada, as also to the east of these mountains near Mono Lake, this species of mining is still carried on to a limited extent, and might no doubt be made to yield much larger aggregate amounts than at present, had ditches for supplying water been as generally constructed there as elsewhere in the State. The want of these indispensable aids to mining has, by curtailing that business, checked the increase of population, and

retarded the general growth of that section to a lamentable degree; and not till these and other much needed improvements are made, can any great or substantial progress be looked for.

Coming on into Tuolumne and Calaveras, and passing thence through the tier of counties that lie against the western slope of the Sierra into Southern Oregon, we find the work of placer mining being vigorously and intelligently prosecuted in all its different branches, and aided by all the auxiliaries that capital can command, or that ingenuity has been able to invent or science supply. Here we have every variety of mining, and see at work the many devices contrived for diminishing labor and saving gold. The several styles of sluices, the hydraulic washings, the long tom, and in some instances the still more primitive pan and rocker, are all encountered, and the hill, gravel, dry, river, tunnel, and cement diggings, are seen in every stage of development. By passing over to the sea shore, in Klamath County, we can even witness the operations of what is known as "beach mining," carried on in the vicinity of the once famous Gold Bluff. To describe these different kinds of mines and the various appliances and modes adopted in furtherance of this business, would require more space than could well be spared; suffice to say, the latter are nearly all the inventions of practical miners, called forth by the necessities of their business or suggested by experience, and that water is the principal agent employed in separating the gold from the earth and gravel in which it is imbedded, these contrivances being simply used to apply it more effectively. It is in the central and northern portion of the State that we find the principal hydraulic washings, and here, too, are the blue gravel lead and cement deposits, marked features of that section, from all which large quantities of gold are annually extracted. The supply of water furnished by the late copious rains having enabled the miners to get to work early in the season, there is much activity generally throughout the placer diggings, and with timely rains from this on till the dry season sets in, the product from this source will undoubtedly prove individually remunerative, and in the aggregate, large.

Of the prospects of this branch of business outside of California the coming season we have already briefly spoken, so far as the northern country is concerned. The limited breadth of placer mines that at one time existed in the State of Nevada is now about worked out, and the calling can hardly be said to be pursued there at all. With the exception of a small force engaged in sluice washing the tailings that come down Gold Cañon, a locality that paid well at a former day, and some small companies occasionally essaying the business elsewhere, nothing in this line is now being done in that State. From Utah reports reach us from time to time of stream washings being found and worked on a small scale in that Territory; but either there are no extensive diggings of this kind there, or else, as seems most probable, the jealous and exclusive policy of the Mormons has sufficed to prevent their being wrought, or the knowledge of their existence being disseminated to the outside world. The probabilities are, that, like Nevada, this territory is destitute of these superficial gold deposits, the climate and external geology of the two sections bearing in their general features a strong similitude. During the past summer, gold diggings, reported to be rich, were found in the Black-foot country, in the northern part of Montana Territory, and according to latest accounts from that region, a multitude of people—computed at twenty-five or thirty thousand, drawn from both sides of the Rocky

Mountains, on the west slope of which these diggings are situated—were immigrating to that point. As the locality is remote and difficult of access, the route leading to it lying through Indian territory, the tribes inhabiting which are generally hostile, the country rugged, and the climate inhospitable, the mines themselves, moreover, being—as is usually the case in that section—extremely spotted, the inducements for Californians to emigrate to that region would seem to be few and feeble. To such as may contemplate making the journey, if any there be, the best route to be pursued would appear to be that by way of Chico, Honey Lake, and Pueblo Valley, following thence the Boise trail to Elk City, Idaho, from which these mines are some two hundred miles to the north-east. This is also the best route for parties having animals to take in going to the Owyhee District, or other places in southern Idaho. The policy of seeking any of these distant localities for the purpose of mining may be considered questionable, when there are known to be still so many good chances for engaging in this business with success in Northern California and Southern Oregon, both of comparatively easy access, and where the miner can enjoy not only safety, but also some of the privileges of civilization and the ordinary comforts of life.

QUARTZ MINING.

While in the province of placer mining the new discoveries being made are few and unimportant, and the diggings already found are being gradually depleted, the area of the auriferous quartz is being constantly extended, every year adding steadily and largely to the yield derived from this source. In magnitude the quartz region of California is already even more than commensurate with that of the surface mines, and in general terms may be said to reach from the Clear Creek District, in the southern extremity of Tulare County, to the northern line of the State, a linear distance of nearly five hundred miles. In breadth it varies from ten to a hundred miles, giving an aggregate area of at least twenty thousand square miles over which these metalliferous lodes are scattered, some districts containing them in great numbers, and others more sparsely. These lodes do not abound in all parts of this extensive territory, but lie in groups or spots, sometimes widely separated, the intervening country being comparatively barren, or containing veins of little value. In some sections, too, the quartz is much more highly auriferous than in others, the smaller and more regularly shaped veins, as a common thing, carrying the larger percentage of gold. As is usually the case with auriferous lodes elsewhere, those of California generally have a northwesterly and southeasterly strike. In thickness they vary from a few inches to as many feet, being in some instances of a much greater size. Ledges a hundred feet thick are not uncommon, but this class are not ordinarily composed of pay rock throughout; in fact, are apt to have what gold they do contain so diffused throughout the mass as to render it valueless. It would almost seem as if nature had allotted a specific amount of the precious metal to each ledge, the large and small alike, thereby rendering the working of the latter a much easier matter than the former, the amount of rock requiring to be reduced being so much less in order to secure an equal amount of gold. The large sized ledges, however, often contain streaks and pockets that prove very rich.

The dip of the lodes in this State is almost uniformly towards the east, some of them having a high and others a low inclination. Some of

the richest veins stand nearly perpendicular, while others lie almost flat. In length they are equally and even more variable, being traceable sometimes for miles, while again they can be found only for a few hundred feet, or perhaps less. The position of the quartz belt of California is longitudinally through the centre of the State, embracing the foothills of the Sierra Nevada Mountains. It has an altitude varying from one to five thousand feet above the level of the sea, reaching at a few points to a greater height, but not often found below the line of elevation first mentioned. Towards its southern limit this belt trends to the east, and crossing the Sierra Nevada chain has its extremity in the Owens Valley country; while in the opposite direction, following the straggling spurs of this same range, it sweeps to the northwest, and terminates on the shores of the Pacific, a portion continuing on into Southern Oregon.

At one time it was thought there was no quartz in the more elevated portions of the Sierra Nevada, but this has since been found to be a mistaken opinion. More recent explorations have brought to light extensive districts containing lodes of this rock highly impregnated with both gold and silver. The Kearsarge District, in Tulare County, and the Excelsior, in Nevada County, with several of less importance situate between them, but all lying high up the sides, and several quite on the summit of the Sierra, disprove this theory, and go far toward warranting the belief that these mountains may yet become the theatre of large and profitable mining operations. The theory has been entertained by some that there was but a single large vein, or rather narrow belt carrying numerous small veins, running along the western declivity of these mountains, and stretching north and south several hundred miles, within the limits of which the principal claims of value are situated; a view that can hardly be accepted as strictly true, though there are many facts and circumstances tending to lend it plausibility. The mines of Clear Creek, and Mariposa, the Soulsby Claim near Sonora, the rich deposits found at Carson Hill, and, finally, the still more affluent and thoroughly developed ledges at Grass Valley, all maintaining the same position relatively to the Sierra Nevada, against which they rest, and the plains at their base, and marked by other geological resemblances and surroundings, while they give a strong coloring to this view, fail to establish it as a positive fact. During the earlier history of quartz mining in this State it was a common impression that these veins, though paying well in their upper portions, would gradually give out when they came to be explored to greater depths, a belief founded upon the narrow and insufficient experience of those who, without adequate means or a knowledge of the business, had first undertaken it in a small way. The heavy operations at Grass Valley, where the most extensive and long continued work yet performed in the prosecution of this business has been done, and where the deepest excavations in the State, with one or two exceptions, have been made, demonstrate that as a common rule the reverse of this is true, the rock brought from the lowest points reached—being several hundred feet beneath the surface—giving as good, and ordinarily better, average results than that obtained nearer the surface. It is now even a question with many if the numerous failures that attended the pioneer efforts at quartz mining in California may not, to some extent, justly be ascribed to the fact that they were generally confined so near the surface. However this may be, there is now no longer any doubt as to the fact that our quartz lodes will, as a common thing, continue to pay indefinitely downwards, the only difference being that the greater the depth attained the smaller the margin of profits, on account of the

increased expense of raising the rock, though until a very considerable depth is reached this difference is not material.

As is generally well known, many of the earlier attempts at quartz mining in this State were pecuniarily failures, as some of more recent date also have been. Of these earlier efforts, several undertaken at Grass Valley were from the first eminently successful, as others in that locality have since become, quite a good many more being attended with fair results. Only a few have proved failures—hardly any disastrously so. In Mariposa County, on the other hand, where also the business was early and largely embarked in, having moreover the advantages of ample capital at the start, it almost wholly failed of success. A great deal of capital had here been invested; large mills were put up and furnished with every facility and appliance for crushing the rock and saving the gold then known to the business. Men of scientific acquirements and supposed practical skill were employed to supervise the work of reduction and exploitation of the mines. But, upon trial, they could not be made to pay; not even gold enough being taken out to defray current expenses, which at that time were of course two or three hundred per cent greater than at present; and it is quite likely that in this financial drain may be justly sought the principal cause of the failure and final abandonment of these first efforts in a district that with cheapened labor and increased experience has since done much to retrieve its damaged reputation. The stoppage of the Mariposa mills, started under such favorable auspices, had a generally discouraging effect upon the business, deterring any one from the further prosecution of it in the southern section of the mines for several years thereafter. Meantime, however, it was gaining a foothold in other parts of the State; and though for the first six or eight years it failed to attain to a flourishing condition, except in a few instances, it has since been constantly improving and advancing in prosperity until its permanency seems established and its future assured. And vast and munificent as are the other resources of California, none are so promising and pregnant of lasting and certain wealth as her fields of auriferous quartz. These mines, illimitable and exhaustless, yield a commodity that never has to encounter competition or to seek a market—its value, like the world-girdling ocean, always standing at the same level. We may have a surplus of grain, and wine, and wool, but can never have of gold.

To the prolific character of this class of our mines, and the advantages of the business, our people seem to be waking up. Having for the past five or six years been investing their money in the mines of Washoe, Mexico, and other distant countries, where they seldom realized any profit, and often experienced loss, they are now wisely turning their attention to these mines nearer home from which a more shrewd and contented class of citizens have meantime been quietly amassing fortunes. The value of this description of mines being established, and the obstacles that lay at the threshold of the business being removed, it only requires, as a general thing, a moderate amount of capital and good management to make it both safe and lucrative. The evidences of a general revival of confidence in the mines of California are presenting themselves in that most obvious and satisfactory shape—the liberal investment of capital and the initiation of numerous enterprises directed to their more efficient development. New mills are being built, new mines opened, and money freely supplied for every legitimate requirement. Home as well as foreign capital is offering itself with unprecedented freedom in the purchase of the mines, and in buying up their

products, while the operative labor of the country is being directed to their development to an unwonted degree, the activity manifested among miners themselves exceeding that of late years.

After the experience had elsewhere, the conviction seems to obtain with all classes that California presents the most eligible field for the employment of both labor and capital of any on this coast. The advantages peculiar to this State are not confined to the generally superior character of the mines, but include also those of greater security to life and property, facility of transportation, the more cheap and certain procurement of subsistence and supplies, and every auxiliary required in carrying on the business of mining. All the staple articles required for conducting this calling with success, labor excepted, cost from one to five hundred per cent more in the State of Nevada than here—the disparity of prices in more remote localities being still greater; while in the matter of legal security, the difference is equally strong in favor of California. Gold bearing quartz can be worked in this State for six dollars per ton, while in Nevada it costs from fifteen to thirty, and in Idaho still more; the additional expense attending the business in these places being chiefly on account of the greater cost of material, the disproportion between the prices of labor being not in the same ratio. While laborers receive three dollars per day in the mines of California, they get from three and a half to five in these other places—the average price in Washoe not being over three dollars and a half. On the other hand, wood at Virginia City costs fifteen dollars per cord, and lumber eighty dollars per thousand, while in the mining districts of this State the average price of the former is about three dollars and the latter twenty dollars. Throughout the interior of the State of Nevada, first quality lumber sells at one hundred and seventy-five dollars, and inferior at one hundred and twenty-five dollars per thousand, the price in some localities being even more. The expense of transporting most cheap or bulky machinery from San Francisco to Reese River equals its prime cost; the freight on lumber amounts to seven or eight times as much as its price at the mills; and so of many other articles that might be instanced in illustration of the marked disparity between prices in this State and those prevailing in other localities, all tending to show the greater facilities existing here for the prosecution of mining in its several branches, at least so far as cost of material is concerned.

Looking over the operations in this department of mining, as carried on the past year, we find comparatively little has been accomplished in the more southerly sections of the country. In Arizona, owing to the hostility of the Apaches, work in most of the interior districts has been suspended, the miners being obliged to leave their claims. In the vicinity of the Colorado River, however, and in one or two other localities, as about Prescott, the capital of the Territory, and at El Dorado Cañon, a small population has remained; and a number of mills taken into these places the past spring and put up, have since been running with good average results. Not much work, however, has yet been done on the ledges, and all that can be said of the most of them is that they prospect well on the surface in both gold and silver. About Wick-enburg and Prescott, in the interior of the Territory, three or four quartz mills are now at work, and, according to report, doing well. One or two other mills are also on the way to that point; and with security against Indian depredations, there is no doubt that the business of mining would soon be revived and become active over a good portion of the Territory. In the El Dorado District, situate west of the Colorado

River, there are also several mills in operation and meeting with success. These mills are all furnished with silver saving appliances, this metal usually predominating in the bullion taken out. Besides these mills, a number of arastras are being run at Wickenburg, and a considerable amount of bullion will be produced the present year in that quarter.

In California there is no quartz mining being done at present at any point south of Clear Creek. Two small mills were erected in Holcomb Valley, thirty miles east of San Bernardino, four years ago, and run with fair profit; but having suspended operations about the time of the Arizona gold excitement, these have not since been resumed. At Clear Creek there are now seven mills running, or about completed, some of them carrying twenty-five stamps, and all those in operation said to be earning money for their owners. A number of other mills are now on the way to that point, and the prospects that all will meet with success are encouraging. In some of the outside districts about Clear Creek, two or three mills are also being put up. The ledges at this place carry free gold, and have been found to yield as high as one hundred dollars to the ton, the rock running from thirty dollars to fifty dollars. They were mostly of small size, and can be opened and worked at a moderate expense, there being plenty of wood and water in the neighborhood. The freights to this section, which go by way of Los Angeles, are somewhat onerous, being at the rate of one hundred and thirty dollars per ton from San Francisco. A number of the heavy men of this city own in these mills and mines, and a good deal of capital is being invested there. The product of bullion from Clear Creek will no doubt be very considerable the current year. These mines are in the south part of Tulare County. A little to the north of them, at a settlement known as Tailbolt, in the same county, a number of small quartz mills and arastras have for several years been running and making good wages, reducing the auriferous quartz found in that neighborhood, and which, though not very abundant, is of good quality. In the vicinity of Kern River there are also a number of mills running, with good results.

Throughout the range of districts composing the Owen's River country, where much work was performed and several mills were put up three or four years ago, very little has been done either in this or any other branch of business during the past year, though signs of activity are said to show themselves, and by some it is anticipated that a general revival of business will shortly ensue. The ledges in that region are of a mixed character, gold predominating, except in the Kearsarge District, where the reverse is true. Throughout the greater part of this region there is a scarcity of both wood and water, which, combined with its inaccessibility and general barrenness, and the unsuccessful attempts heretofore made in the way of working the mines, will be very likely to deter settlement and further immediate efforts at reopening the country and resuming operations on the mines. In the Kearsarge District, which, though situate on the Owen's Valley slope of the Sierra, lies quite high up in the mountains, one ledge of well ascertained value has within the past year been found, with a number of others affording also promise of great wealth. The leading claims are in the hands of men of energy and means, who have lately taken two mills into the district, one of which is already in operation, and the other in course of construction; and from well authenticated accounts there is reason to anticipate a large yield of bullion from the workings of these mills. The leading claim in the district has been developed by means of a tunnel reaching it at a considerable depth beneath the surface, and from which ores have

been obtained assaying very largely. A large accumulation of ore now on hand it is thought will yield five hundred dollars to the ton by mill process. Being high up in the Sierra Nevada, there is, of course, an abundance of water and timber in the vicinity of these ledges, the pine forests being, in fact, among the finest in the world. The remote and out of the way situation of this district, however, is much against it, freights being obliged to go by the way of Aurora; though it is likely a shorter route, crossing the mountains in the vicinity of the mines, will yet be opened. Throughout the scope of country denominated the Southern Mines, being that between Amador and Tulare Counties, this branch of mining has been moderately prosperous during the last year, the aggregate product being about the same as for several years past; while for the Northern District, it has been somewhat larger than usual, the increase in the annual product of the State being due to this section.

The mere enumeration of isolated cases of success would occupy much space, and cannot be attempted; nor is that necessary, the numerous heavy sales that have been made the past year indicating sufficiently the degree of this success. During this time over one million dollars have been paid for mines situate in Tuolumne County, and about an equal amount has been invested in mines in the vicinity of Grass Valley, the Eureka Mine and mill at that place having in October last alone been sold for a sum approximating one half that amount, the purchasers being J. B. Dickinson, of New York, Robert and William Watt, of Grass Valley, George W. Beaver, W. H. V. Cronise, W. E. Dean, Milton Bulkley, and others, of this city. In addition to these, other large sales have been effected in various other localities. These sales have mostly been made to California capitalists, and paid for in gold, though it makes no sort of difference what style of money payment is made in, so long as the kind is agreed upon beforehand; miners will dispose of their claims just as readily for currency notes as for gold; and the idea that the introduction of national currency could facilitate sales is equally fallacious and absurd with the complaint about the mountain towns being depopulated and gone to decay—they having done so simply because the diggings that lead to their being built, and that supported them, are exhausted, and there is no longer any necessity for people or towns at these particular spots. Nothing can resuscitate them but sowing the placers again with gold.

Reviewing the whole field of quartz operations, it is evident that this branch of mining in California has not only received a new impulse the past year, but that its rewards have been steadily on the increase, and the confidence felt in its future greatly established. A large number of new mills, generally of greater capacity than the average of an earlier day, have been erected; old ones have been enlarged or repaired, and idle ones set to work—the increase of crushing capacity for the State equalling, perhaps, twenty-five or thirty per cent. The expenses of working the rock have meantime been reduced, while the percentage of gold saved has been increased. The yield has, of course, been very unlike in different localities, often fluctuating much even in the same locality and mine; the scale of variation running from five dollars to one hundred and fifty dollars to the ton. The average throughout the State may, perhaps, be set down at thirty dollars per ton, giving a margin for clear profits, over cost of working, of three hundred per cent. In some sections it is less than this, and in other large districts considerably more. At Clear Creek, on Kern River, and about Grass Valley, the average yield is at least thirty dollars per ton. A great deal of rock is worked with a compensating margin that does not yield more than

eight or ten dollars to the ton, and in some localities it is said to have been worked without loss, though yielding not more than half that amount. Where this can be done, all the conditions essential to cheapened reduction must, of course, be present. It frequently happens that ledges which fail to pay at first become remunerative when opened to a greater depth. Sometimes, though not often, the reverse is true, the vein stone growing poorer or giving out as descended upon. In almost all true veins there is an improvement with depth. The Eureka Mine, Amador County, at a depth of more than a thousand feet, is paying as well as at any point above. The shaft of this company is the deepest in the State, though there are several others of nearly as great depth; yet in none of these cases of extreme depth has there been any visible impoverishment in the ores so far as reported. At Grass Valley, where many of the ledges have been developed to a considerable extent downwards, the same general facts hold good.

The most common mode of exploitation in this State is by shafts sunk upon the ledge, tunnelling also in many cases being resorted to as affording facilities for the extraction of the vein stone and effecting drainage. Many of these shafts are from one to three hundred feet deep—the tunnels varying in length from one hundred to a thousand feet, and occasionally much more. The cost of excavating these works, estimated by the linear foot, depends upon the nature of the material to be penetrated, the distance to be run, and similar conditions, and is therefore extremely variable, but may be roughly stated at ten dollars per foot for sinking shafts, and fifteen dollars for excavating tunnels. The wages paid miners for this kind of work runs from fifty to seventy dollars per month, with board, the average being about sixty dollars, or three dollars per day. Aided and stimulated by the liberal investments being made, there is now much prospecting going on, both in the way of opening ledges already located and in searching for new ones. In most cases miners who dispose of their interests employ the proceeds in prospecting for others, or in working the claims they may still own.

The quartz mills throughout this State vary in capacity from three stamps to fifty; the number contained in the mills built at an earlier day generally running from five to twenty. Latterly the number has been larger. Most of the mills are employed in crushing rock from the ledges belonging to their several proprietors; and hence there is in many districts a need for mills to do custom work. It is usually estimated that each stamp has a capacity to crush one ton of rock in twenty-four hours. The earnings of some of these mills and mines are enormous. The average monthly yield of four mills on the Fremont Mariposa estate was over sixty thousand dollars. The net earnings of the Crescent Company, Plumas County, have been at the rate of one hundred thousand dollars per annum, while, as we have already seen, many of the leading mines about Grass Valley have produced still more munificently. The total yield of the Allison Ranch Mine, at that place, since operations were first commenced upon it, has exceeded two million five hundred thousand dollars; the group of claims on Massachusetts Hill have turned out about three million five hundred thousand dollars; the North Star, and other mines on New York Hill, have yielded two million five hundred thousand dollars, and the Norambagua alone one million dollars. The complement for Gold Hill has been three million dollars, and for the Lone Jack Mine, Ophir, Osborne, and Hueston Hills, the aggregate has been fully three million five hundred thousand dollars. The product of the Eureka during the past two years has exceeded five hundred thou-

sand dollars, its earnings for the month of December last alone having been more than forty-three thousand dollars. The aggregate amount of gold taken from the quartz mines within the limits of the Grass Valley District since eighteen hundred and fifty-two—thirteen years—has been at least twenty million dollars.

In corroboration of the substantial correctness of this statement, we find, after a very careful examination of all the records and other data at our disposal, that the aggregate yield of Grass Valley during the past thirteen years has been about twenty-eight million dollars, including all the receipts from surface mining claims in that region. From these latter sources the most reliable statistics show that about eight million dollars has been obtained, leaving twenty million dollars as the probable product of the quartz mines since eighteen hundred and fifty-two. This is believed by many well informed parties to be too small an estimate, but wishing to be within bounds, we conform to the above figures. During the past year the quartz mines of Grass Valley have yielded about three million three hundred thousand dollars, or an average of two hundred and seventy-five thousand dollars per month, and the coming year is likely to show a product of more than four million dollars. The Soulsby Mill, Tuolumne County, turned out at the rate of fifty thousand dollars per month when it first started, and although it did not keep up that yield, has earned vast sums most of the time since. A large number of mills of ordinary capacity might be mentioned that for years have steadily earned from ten thousand to twenty thousand dollars per month. Most of these mills run night and day. Immense sums have heretofore been and are still being lost in the working of quartz from inability to separate the gold by the ordinary modes of treatment from the sulphurets of iron and copper with which it is combined. Many efforts are being made to meet this difficulty, some of which have been partially successful, and there is reason to hope that the desideratum will be supplied at an early day. About two thirds of the mills in California are propelled by steam, and the balance by water, the latter generally being those of inferior capacity. The most of them run night and day, stopping only for repairs or on Sunday.

The business of quartz mining upon this coast is not confined to California, there being a great number of ledges in Nevada, Idaho, and in fact throughout all parts of our Pacific possessions, that are now being, or will hereafter be worked by a simple gold-saving process. The bullion obtained from this class of ledges is worth from six to fourteen dollars per ounce. The rich claims at Gold Hill, the ledges not long since found near Walker Lake, and those of supposed great value situate in the desert country covering the southern part of Nevada, as well as many others in various parts of that State, are almost exclusively gold-bearing, and will require to be worked as such.

SILVER MINES AND MINING.

While California has within her borders a considerable number of what may properly be termed silver-bearing lodes, she has as yet produced but little of this metal—the bulk of it having come from the mines about Virginia City, and other localities in the State of Nevada, where the business of mining for it is extensively engaged in. The yield of that State for the past year amounted, in round numbers, to sixteen million

dollars—the same as the year before; the entire product of that region since the discovery of silver there in eighteen hundred and fifty-nine, being estimated at about forty million dollars. While there has thus been no tangible falling off in the yield of late, it is not to be concealed that the results of the last year have somewhat disappointed the sanguine friends of that country, many of whom had predicted and confidently looked for a large increment there of the precious metals. Without going into an examination of such other causes as might have contributed towards that end, it is enough to say there could have been no great increase of this commodity without a corresponding increase of mills and reduction works, which it is well known has not been had. A good deal of capital has recently been invested in that region, and many mills have been commenced, but only a few of the number have yet been completed—the producing class having been diminished meantime. In another year, when these establishments and others now projected or contemplated shall have been finished and set to work, there will no doubt be a large addition to the bullion product of Washoe.

With the causes of the late depreciation of stocks in the mines at Virginia City, the public are too well acquainted to require their discussion in this place. It is enough that it was undoubtedly a salutary and desirable event, and one not unexpected by those best acquainted with the merits of these mines and their management. It has unquestionably caused pecuniary inconvenience in certain quarters, and may to some extent discourage further investments in the silver mines of that State; but it is equally certain that in the end it will result in placing that interest on a more solid basis than before, and prove generally beneficial to all parties concerned. That the mineral wealth of Nevada is really very great, is now pretty well established—many of the ledges discovered in the central and southern portions of the State during the last year being conclusive on that point, whatever may be thought of the Comstock lead. The ores are rich, accessible, and tolerably abundant, as is shown by the decided success of the mills running upon them; and, numerous as are the valuable lodes already discovered, the work of exploration is still being carried on with success.

Upon the value of many of the districts it is yet too soon to pronounce an opinion; but in regard to some there is not much hazard in saying they contain numerous ledges of fair size and undoubted richness; and that when these remote regions come to be connected with San Francisco by railroad communication, as will likely be the case in two or three years, they will rapidly fill up with people and produce their great staple in unexampled abundance. There is now in the State nearly one hundred and fifty mills, with an aggregate capacity of about two thousand stamps, most of which have been running the greater part of the time during the past year. The cost of these mills ranged from twenty thousand dollars to two hundred thousand dollars, the average being about seventy thousand dollars each, or a total of ten million dollars. Within the last eighteen months the machinery for about thirty mills, generally of good size, has been sent into the State, these establishments now being in different stages of progress, the most of them completed or well under way. A nominal capital of many millions, and an actual cash investment of perhaps two and a half millions, mostly from the East, have come into the State, meantime, to the great relief of the mining interest, which had begun to languish, as very little aid had been received from California for some months before. With this assistance the country has received a start that will sustain it until a considerable

number of the mines are brought to a productive stage, and secure it against a relapse.

COAL.

As gold and silver have been denominated the precious metals, so coal is justly entitled to be called a precious mineral, since, viewed in the light of its practical utility and the requirements of the future, it is of more importance to mankind than either of these much coveted metals. Already the great promoter of manufactures and commerce, it will soon become the helper also of our agricultural and more domestic industries. What has been popularly considered coal, being often a species of lignite, has been found at a number of different places both in this State and in the adjoining States and Territories. The principal places where true coal in quantity has been found within the limits of our own territory are at Bellingham Bay and in Mount Diablo; at which localities it has for a number of years been mined with considerable success. It is of a bituminous variety, and is found to constitute a desirable fuel both for domestic uses and the generation of steam, being largely employed at present for both purposes, and constantly growing in favor. The consumption, now large, is yearly increasing, and to that extent superseding the imported article. The following statements of receipts from various mines during the past year will serve to indicate their productive capacities and the annual consumption of this class of coal. During the year eighteen hundred and sixty-five, there was received at the port of San Francisco from Nanaimo, Vancouver Island, about eighteen thousand tons; from Bellingham Bay, fourteen thousand four hundred and forty-six tons; and from Mount Diablo a total of fifty-eight thousand five hundred and fifty-eight tons, being fourteen thousand nine hundred and three tons from the Black Diamond Mine; twenty-three thousand six hundred and fifty-five tons from the Eureka; eleven thousand five hundred tons from the Union; eight thousand five hundred tons from the Manhattan. From the Teutonia and the Central, no returns, the latter driving in tunnel; the Pittsburg, worked only for a portion of the time, the company being engaged in laying down a railroad for the transportation of their coal to the Bay. From Nanaimo there was received for eighteen hundred and sixty-four, twelve thousand seven hundred and forty-five tons; from Bellingham Bay about ten thousand tons; and from Mount Diablo fifty thousand six hundred and ninety-five tons, which latter sold that year at prices ranging from eight dollars and fifty cents to nine dollars per ton, and the past year at from eight dollars to eight dollars and fifty cents per ton; while the Bellingham Bay for eighteen hundred and sixty-four varied from nine dollars to sixteen dollars per ton; and for eighteen hundred and sixty-five, uniform price, eleven dollars to eleven dollars and fifty cents per ton. From the Fuca Strait mines only about five hundred tons have been received, the company having discontinued. The price obtained for this coal was about eleven dollars per ton.

For fuller details as to the yield of the several mines on this coast, our statistical columns may be consulted. A large amount of capital has been invested in the mines at Mount Diablo and Bellingham Bay, both of which are in the hands of parties having substantial means, who are opening them with system and care. The quality of the coal improves as greater depths are reached in the mines, causing it to increase in favor with consumers; and there is not much doubt but these companies, already able to supply every home demand, will ultimately monopolize the home market.

COPPER.

This metal is found in considerable abundance at a number of points, not only in California, but also in Oregon, Nevada, Arizona, and perhaps also in all our other Pacific Territories. The only mines that have as yet been extensively worked are those at Copperopolis, Calaveras County, in this State, discovered in eighteen hundred and sixty; though a large amount of labor has been expended on many others in bringing them to a state of partial development, and from some of which also considerable quantities of ore have been extracted. The business of opening this class of mines and rendering them productive has been greatly retarded the past year, from want of sufficient capital. As this, however, is being more liberally supplied, operations will no doubt be carried on hereafter more extensively, work having already been resumed on some claims, and preparations made for opening others.

The Union Company, at Copperopolis, extracting more ore, perhaps, than all others in the State combined, has, during the past year, shipped to San Francisco at the rate of one thousand tons per month. From the Keystone Claim, at the same place, the monthly shipments have been about two hundred and fifty tons, while those from the Napoleon Mine, near by, have been but trifling, very little work having been done upon it. This mine has recently changed hands, and, beginning with the new year, it is understood that work will henceforth be prosecuted upon it with vigor. About four thousand tons of ore have been extracted from it since first opened. Operations will also be somewhat extended the present year upon the other mines mentioned, it being the intention of the Keystone Company to raise about four hundred tons monthly. Owing to increased means, it is calculated that after the month of April next the productive capacity of these several mines will be doubled. The Newton Mine, Amador County, has, during the latter part of the year, shipped about two hundred tons of ore per month, and the Campo Seco about one half that amount during the same period, neither having done much earlier in the season. These ores contain from fourteen to sixteen per cent. of metal, and have hitherto been pretty much all sent abroad for smelting or a market—some going to England, but the greater portion to New York, Boston, and Baltimore. Some small lots of copper ore were received at this point during the year from Arizona, and it is expected the business of extracting this ore will be much extended there the coming season. Monthly receipts of from four hundred to five hundred tons are counted upon in a short time. The ores from that quarter are very rich, containing from thirty to forty per cent of metal.

QUICKSILVER.

The product of this metal for the year has been large, the bulk coming as usual from the New Almaden Mine, which has yielded forty-seven thousand one hundred and ninety-four flasks. From other mines there has been received but little. The New Idria Mine has for a long time been idle, the title to this property being involved in litigation. The Gaudalupe mine has done but little the past year; the Redington Lake Company, since they commenced operations in eighteen hundred and sixty-two, have turned out six thousand seven hundred and fifty-five flasks of quicksilver, an amount that, with little additional means and effort, might largely be increased. Cinnabar has been found at many points in the Coast Range Mountains, both to the north and south of New

Almaden, the extent of the deposits being such as to render it probable that they could be worked with large profit. Thus, at a point to the south of New Idria, a vein of this ore of great apparent magnitude was discovered about one year ago, samples of ore from which assayed very largely. Near Mount Diablo, rich specimens of this ore have also been found, while in both Napa and Lake Counties it has been met with in vast abundance, leading to the belief that it will yet be worked there on an extensive scale, and with large profit, as wood and water abound in the vicinity of these deposits.

PETROLEUM.

The progress made in the development of this new interest in this State is, perhaps, best indicated by the quantity of the crude article received in this city the past year, which, as nearly as can be arrived at, has been as follows: Stanford Brothers have received about twelve thousand gallons, three thousand of which were from the Union Mattole Well, Humboldt County, and the balance from the Stanford Oil Springs, Santa Barbara County; Haywood & Coleman have received about forty thousand gallons, also, mostly from Santa Barbara, a small portion coming from Los Angeles, and the Lexington Well, Santa Clara County. Benoist and others have received a few small lots; the total amount reaching this city, and representing the product of the State, amounting in all to about sixty thousand gallons. There are now several works in the city for refining the crude petroleum, that of Stanford Brothers, and of Haywood & Coleman, being the principal ones. The former have two stills with a capacity for refining five hundred gallons daily each, and a third nearly in readiness with a capacity of one thousand gallons; Haywood & Company have two stills of a daily capacity of one thousand gallons each. No greater difficulties are encountered in refining this article and producing therefrom first class oils here than elsewhere, that obtained from the natural flow of the springs being somewhat thicker and more difficult of treatment, as it is in other countries. Being now carefully collected immediately on its issuing from the spring, and before it has become inspissated by the escape of its more volatile particles, this class is becoming more tractable, and will, it is believed, ultimately give but little more trouble than that obtained from the deep wells. These natural springs are met with in several counties in the central and southern portions of the State, and by proper management could be made to yield a large and never failing supply of crude petroleum, as they will no doubt soon be made to do, most of them having lately fallen into the hands of capitalists and others, who purpose proceeding at once with the work of their development. A large number of wells, forty or fifty in the aggregate, are now being bored in various localities, the majority of them in Humboldt County. The deepest is about four hundred feet down, the most of them being much less; and although none have as yet yielded any great amount of oil, a few barrels have been obtained by pumping, from quite a number, and the prospects are good that quite a large percentage of them will yet produce it in remunerative quantities. About seventy companies, with an aggregate nominal capital of forty-five million dollars, have been organized for prosecuting the business of boring for or otherwise obtaining petroleum in this State, only about half of which are as yet engaged in active operations.

BORAX.

This valuable salt, indispensable for assaying purposes, and hence largely employed in the mint, and heretofore imported from abroad, is now being obtained in this State in such quantity as not only suffices to meet every home demand, but affords a large surplus for export. The localities of this substance, so far as discovered, are at Clear Lake, now called Borax Lake, where it exists in great quantities, and of a purer kind than has ever been found elsewhere in the world. A company has been formed in this city for procuring borax from the above locality, who have the Government title to both the water and the adjacent land. They are gathering this salt at the rate of several tons weekly, and sending it to this point, whence, after supplying the demands for home consumption, amounting to thirty or forty tons per annum, it is shipped abroad. This company are able to supply a superior article at the rate of twenty cents a pound, the price having heretofore been considerably greater.

ANNOTATED CATALOGUE
OF THE
PRINCIPAL MINERAL SPECIES
HITHERTO RECOGNIZED IN
CALIFORNIA,
AND THE
ADJOINING STATES AND TERRITORIES,
By WILLIAM P. BLAKE,
GEOLOGIST OF THE CALIFORNIA STATE BOARD OF AGRICULTURE; AND PROFESSOR OF MINERAL-
OGY, GEOLOGY, AND MINING, IN THE DEPARTMENT OF SCIENCE OF
THE COLLEGE OF CALIFORNIA.
MARCH, 1866.

SAN FRANCISCO, March 6th, 1866.

I. N. HOAG, Esq.,
Secretary of the State Board of Agriculture:

DEAR SIR:—I send you for your report a list, with notes, of the principal minerals and mineral localities of the State, and of portions of the adjoining States and Territories. It was my intention to make this list complete before publication, but the time at my disposal since the Board honored me with the appointment has been so limited that I am compelled to send it to you conscious of many omissions and imperfections, which I hope to remedy in the future. This list is not designed to be of very direct economical value, but is intended rather to show the nature and distribution of our minerals, and to help to arouse an interest in the science of mineralogy among our people.

Very respectfully, your obedient servant,

W. P. BLAKE,
Geologist of the Board.

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ANNOTATED CATALOGUE OF THE PRINCIPAL MINERAL SPECIES

HITHERTO RECOGNIZED IN CALIFORNIA AND THE TERRITORIES ADJOINING.

1866.

ACTINOLITE.

Occurs with garnets in steatite at Petaluma.

ALABASTER.

In *Los Angeles County*. Specimen in cabinet of the author, received from Mr. Tyson, of Arizona.

ANDALUSITE.

Mariposa County.—In the drift of the Chowchillas River, near the old road to Fort Miller, there is a great abundance of fine crystals of andalusite which show the dark lines or crosses in a remarkably perfect and interesting manner. They are found also in the stratum of conglomerate which caps the hills along the stream, and are doubtless in place in the slates a little higher up the river.

Smaller and less perfect "macles" occur in the slates at Hornitos, on the road to Bear Valley. Some of the specimens from the Chowchillas River resemble those from Lancaster, Massachusetts.

ANTIMONY—(*Sulphuret of*.)

(SEE STIBNITE.)

ANTIMONY OCHRE.

San Amélio Mountain, with antimony-glance.

AGATES AND CARNELIAN.

Beautiful pebbles of agate and carnelian are abundant along the beach at and near Crescent City. They are much water-worn, and are generally of light colors. Larger pebbles and more highly colored are abundant in the pebbly drift along the Colorado River. Small but very smoothly worn specimens of agate and jasper may be picked up on the shores of Lake Tahoe.

ARSENIC.

Monterey County, at the Alisal mines, twenty-five miles from the Mission of San Carlos.

ARSENICAL-ANTIMONY.

Ophir Mine, *Nevada Territory*.—In reniform, finely crystalline, somewhat radiated masses, of a color between tin white and iron black, on a fresh fracture, but greyish black from tarnishing; associated with arsenolite, calcite, and quartz.—(*F. A. Genth, Am. Jour. Sci.*, (2) xxxiv, 190.)

ARSENOLITE.

Occurs in large masses, with native gold, at the Armagosa Mine, Great Basin. It is also reported from the Ophir Mine with arsenical antimony.—(*Genth*.)

ASBESTUS.

Calaveras County, Salt Spring Valley, at the Kentucky claim. *Los Angeles County* (?) in large masses. (From Major Ströbel.)

AZURITE—(*Blue Carbonate of Copper*.)

In fine crystalline groups and masses, with malachite, at Hughes' Mine, *Calaveras County*. (1861.)

BIOTITE.

From the vicinity of Grass Valley. (Cabinet of C. W. Smith.)

BITUMEN.

Occurs abundantly in numerous places in the Coast Mountains, south of San Francisco, but especially south of San Luis Obispo, and in the vicinity of Los Angeles. It is frequently seen floating in the Santa Barbara channel. It is abundant in *Tulare County*, on the west side of the Tulare Valley, near Buena Vista and Kern Lakes, and at this and other localities is associated with *petroleum*, (which see.)

BLENDE.

Occurs sparingly in many of the gold-bearing quartz veins of the State, especially when lead is present, as, for example, at the Princeton Mine, Mariposa estate; the Adelaide Mine, Hayward & Chamberlain's Mine, and in several of the Grass Valley mines in *Nevada County*; at Meadow Lake, in considerable masses, with galena, iron pyrites, and

copper pyrites. It is associated with yellow copper in the Napoleon Mine and the Llanha Plana; in *Sacramento County*, at Michigan Bar, associated with galena, oxide of iron, and copper ore. (Cabinet of Dr. Frey.) *Placer County*, fifteen miles from Lincoln, towards Nevada, with galena and gold; at the Bloom claim, near Angels' Camp, *Calaveras County*; also in a quartz vein in Coulterville.

BORAX.

Lake County, in large crystals in the clay of the Borax Lake.

BORACIC ACID.

Clear Lake, *Lake County*.

CARBONATE OF MAGNESIA.

(See *MAGNESITE*.)

CARBONATE OF SODA.

San Bernardino County, at Soda Lake, sink of the Mohave River; in *Tulare County*, along the borders of the smaller lakes, when drying up; at the borders of the Santa Anna River, near San Bernardino.

CASSITERITE.

San Bernardino County, at the "Temescal tin region," about sixty miles from Los Angeles. Occurs in many veins associated with schorl (?) traversing granite. In most of the ores the tin oxyd is found only by crushing and washing. At the "Gun lode" a peculiar drab colored oxyd is found in considerable quantities. It appears to be liberated by the decomposition of an arsenical ore, arsenic being abundant in the samples. The oxyd, as collected in that region for examination, is in various degrees of purity, and exhibits different colors. Some of the samples obtained by washing are black, others brown, and some red and drab colored.

Idaho Territory, on Jordan Creek, in placers, in beautiful rounded masses, from one eighth to half an inch in diameter, very pure and clean—the variety known as wood tin.—(Cabinet of the author, specimens received from Charles T. Blake, Esq., of Idaho City.)

Mexico—State of Durango; wood tin of great purity and beauty occurs abundantly in this State. It closely resemble the stream tin of Idaho.

CERUSITE—(*Carbonate of Lead*.)

In large crystals resembling those from Siberia, in the Russ District (?) Great Basin, near the Mojave River; *Arizona*, in heavy incrusting masses upon the galena of the Castle Dome District.

CHALCEDONY.

Large masses of white chalcedony, delicately veined, and in mamillary sheets, occur in *Monterey County*, near the Panochés. On Walker River, Washoe; and of a fine pink color near Aurora, Esmeralda. In pear shaped nodules in the eruptive rocks between Williamson's Pass and Johnson's River, *Los Angeles County*.

CHALCOPYRITE—(*Yellow Copper Ore.*)

This is the chief ore of the copper mines of California, as it is likewise of the mines of Cornwall, England. It is therefore found at a great number of localities, along the copper bearing belt which stretches in a nearly unbroken zone from Mariposa County northwesterly to Del Norte County, parallel with and on the western side of the chief gold producing belt of the State.

In *Calaveras County* the chief localities (for the massive ore) are: The Union, Keystone, Empire, Napoleon, Campo Seco, and Lancha Plana Mines. In good crystals implanted on and among clear quartz crystals, at the Noble copper claim on Domingo Creek.—(Collection of Dr. Jones, Murphy's.) In *Mariposa County*, the La Victoire Mines, in Hunter's Valley, and Haskell's claims, below Mariposa Town, and claims along the Chowchillas River. *Amador County*, at the Newton Mine. *El Dorado County*, at the Cosumnes Mine, Hope Valley Mine, at the Bunker Hill Mine, El Dorado Excelsior, and other claims at and near Pilot Hill. *Plumas County*, at the Genesee and Cosmopolitan Mines. It occurs also, in small quantities, in *Contra Costa County*, in the rocks of Mount Diablo, and in those of the Coast Mountains, south and north of San Francisco. In *Los Angeles County*, at Richmond District, and at Big Meadow District, both on the interior slope of the mountains at the margin of the Great Basin.—(*Vide Geol. Rec. Cal.*, p. 290.)

Lower California, a few leagues south of San Diego, at the Winder claims.

Arizona, at the Apache Chief Mine, after getting below the "surface" ores. At the San Pedro Mines, near Fort Buchanan. Near Caborca, in northwestern Sonora.

CHLORIDE OF SILVER.

At the mines about Austin, *Lander County, Nevada*, this species is abundant in the surface ores, being derived from the decomposition of the mixed sulphurets of silver below the water level. It was also found in the decomposed ores of the upper portions of the Comstock lode, and is common to all the silver veins of the Great Basin. Some remarkably fine specimens were obtained at the ——— mine in Slate Range District, California. Occurs also in the Willow Springs District, and in the veins of El Dorado Cañon, Arizona.

CHRYSOCOLLA—(*Silicate of Copper.*)

Not common in California, where the sulphurets in decomposing give carbonates and oxyds; but in Arizona, along the Colorado River, very common at and near the surface, where the veins containing copper glance are decomposed. Fine specimens were taken from the Great Central claim, about twenty miles from La Paz, and at the Blue lode.

CHROMIC IRON.

Monterey County, in masses, with green crusts and coatings of emerald nickel. *Santa Clara County*, near the North Almaden Mine.

CHRYSOTILE.

In serpentine, near San Francisco, and at New Almaden, *Santa Clara County*.

CINNABAR—(*Sulphuret of Mercury.*)

This is the characteristic mineral of the Coast Mountains, from Clear Lake on the north to San Luis Obispo on the south. It appears to be connected chiefly with the secondary rocks, though at San Luis Obispo Prof. B. Silliman collected a group of fossils which appear to be miocene tertiary. (See a notice by Mr. Gabb, Proc. Cal. Acad. Nat. Sci.) The principal locality is the well known mine of New Almaden, in *Santa Clara County*, and the adjacent mines of the Enriqueta and the Guadalupe. The ore occurs massive, in large bunches and "strings," and is associated with calc spar, bitumen, and pyrites. The total production of quicksilver, chiefly from the New Almaden, up to January, eighteen hundred and sixty-five, was three hundred and seventy-one thousand eight hundred and eighty-three flasks, valued at about fifteen millions of dollars in gold. At the "North Almaden," on the east side of the San José Valley, and nearly opposite the New Almaden, considerable quantities of cinnabar have been taken out of prospecting pits at this place, at several different points. A heavy ferruginous outcrop shows the general course of the metalliferous belt. The rock is hard and flinty, and is frequently beautifully streaked with brilliant red cinnabar, the whole sufficiently compact to give fine specimens for polishing by the lapidary. It occurs abundantly, and in very handsome cabinet specimens, at the New Idria Mines, in *Monterey County*, at which work has recently been resumed. There are many localities in *Napa County*, and in the vicinity of Clear Lake, and the Geysers. In small crystals in hornstone, at Buckhorn Ranch, north of Berreyesa Valley.

In *Mariposa County*, near Coulterville, in finely colored crystals in quartz in a gold vein. *Nevada County*, about four miles from Grass Valley, washed out of sluice boxes, and entirely different from the New Almaden ore in appearance. *Arizona*, about eighteen miles from the Colorado River; at Olive City, at the "Alma" claim, and the "Eugenie," located by Mr. Ehrenberg; associated with silver. Reported to exist in *Idaho*, on the Owyhee River.

CORUNDUM.

Los Angeles County, in the drift of the San Francisquito Pass, in small crystals.—(Baron Richthofen.)

COPPER, NATIVE.

This species is common in small quantities in the surface ores of the principal copper mines of the State, but is not found below the permanent water level. No veins of this metal like those of Lake Superior are known upon the Pacific coast, but the abundance of large drifted masses of solid copper in one or more streams upon the northwest coast, (Russ. Poss.) leave little doubt that such veins do exist in that high latitude. *Calaveras County*—At the Union Mine, some very fine masses of dendritic or moss copper have been taken out, (Cab. of J. B. Meader.) The Keystone Mine, adjoining the Union, also produced some good speci-

mens in eighteen hundred and sixty-one. Found also at the Napoleon and the Lancha Plana Mines; and in *Sacramento County*, at the Cosumnes Mine. In *Santa Barbara County*, occurs disseminated in grains in the midst of serpentine rock. *Arizona*, on the Gila River, about ninety miles from Fort Yuma, at the Arizona Copper Company's mine; associated with red oxide of copper and green carbonate, and spread in crystalline masses through a gangue of calc spar. (Cabinet of the author.) (For the ores of copper, see CHALCOPYRITE, RED COPPER, VITREOUS COPPER, etc.)

COPPER GLANCE.

Los Angeles County, at the Maris Mine, Soledad District, in grains and irregular masses in a syenitic granite. It contains silver. The decomposition of this ore at and near the surface gives metallic copper, and metallic silver, incrusting the surfaces of the granite where fissured. This locality was known and worked as early as eighteen hundred and fifty-three. In *Arizona* this is the most common ore of copper, especially in Weaver District, near La Paz, or Olive City. It is usually argentiferous, and is there associated with gold in quartz veins. Found also in the Cahuabi Valley, the Tajo, and the San Pedro Mines, and near Caborca, in Northwestern Sonora.

DERBYSHIRE SPAR.

Castle Dome District, *Arizona*. (See FLUOR SPAR.)

DIAMOND.

Butte County, Cherokee Flat, ten miles from Oroville. In well formed, highly modified crystals, from one eighth to three sixteenths of an inch in diameter, and generally of a pale straw yellow color. Crystallization tetrahedral, like fig. 267, p. 24, Dana's System of Mineralogy.

Idaho.—Reported to exist on the Owyhee River.

DIALLOGITE—(Carbonate of Manganese.)

Occurs abundantly in the silver bearing veins about Austin, *Nevada*. By decomposition it becomes black, and discolors the upper parts of the vein, but at and below the water line, with the unchanged ores of silver, it has a delicate flesh red or pink color.

DOLOMITE.

Amador County, in narrow, snow white veins, traversing a talcose chloritic rock, and bearing coarse free gold. (Cabinet of the author, specimen presented by Mr. James.) *Calaveras County*, Angel's Camp, in the Winter, Hill's, and other mines, massive, with the quartz veins, and bears gold. Sometimes in fine crystals, lining cavities. *San Bernardino County*, at the Armagosa Mine, bearing coarse gold.

EMBOLITE.

Is believed to occur in the surface ores of *Lander County, Nevada*, near Austin, and of Washington District, further south, but has not been certainly identified.

EMERALD NICKEL.

Monterey County, with chrome ore.

FELDSPAR.

San Diego County, in crystals. (See ORTHOCLASE.)

FLUOR SPAR.

In crystals and large cleavable masses, of various tints—white, pink, and purple, and green, like the specimens from Derbyshire, England; in the veins of galena and blende, Castle Dome District, Colorado River, *Arizona*. Sparingly, in small white cubes, with the copper ore, at Mount Diablo.

GALENA—(Sulphuret of Lead.)

This common ore of lead has not yet been found in finely crystallized cabinet specimens on the Pacific coast. The localities of the massive or granular ore are numerous—it being found in small quantities in many of the gold bearing veins of the State, especially at the following: *Mari-posa County*, at Marble Springs Mine; Princeton Mine; Adelaide. *Calaveras County*, at the Barnes and Silver Elephant claims, at Murphy's; at the Star of the West, Blue Mountain District, and the Good Hunter claims, with gold. In *Sacramento County*, at Michigan Bar, with blende and pyrites. *Nevada County*, at Meadow Lake, with blende. *Tuolumne County*, at the Soulsby Mine, with blende and iron pyrites and gold. In *Nevada County*, in several of the veins at Grass Valley, with free gold. In *Tehama County*, on Cow Creek; and abundantly in veins on the Island of Santa Catalina. In *Arizona* it is abundant in the veins of the Castle Dome District, twenty-five miles from Fort Yuma; and in the Eureka District, on the same river, about twenty-five miles further north; also in the Picacho District, and in the Weaver District, near La Paz; at the Santa Rita Mine, with gray copper ore; in the Tajo vein, with copper glance, blende, tetrahedrite, and gold; in the Santa Cruz Mountains, south of Fort Buchanan; at the Mowry and Patagonia Mines; at San Xavier, on the Santa Cruz (Pumpelly.) In *Nevada* it is abundant on Walker's River, north of Esmeralda, and at Steamboat Springs, Galena District. It is also found in portions of the Comstock lode, Washoe, associated with the silver sulphurets; but where it is associated in that vein with much blende and copper pyrites, it is not rich in silver—forming the ore commonly known there as "base metal."

GARNET.

El Dorado County, at Fairmount Mine, three miles from Pilot Hill, in large blocks and masses two feet thick, or more. Associated with specular iron, calc spar, iron pyrites, and copper pyrites, with actinolite in steatite, near Petaluma, *Sonoma County*; in large semi-crystalline masses, weighing ten to twenty pounds, and of a light color, from the Coso mining district. (Specimens of this were brought to San Francisco under the supposition that it was tin ore.) A beautiful green garnet,

grossular, is found with the copper ore of the Rogers claim, Hope Valley, *El Dorado County*, and similarly in copper ore at the Mountain Meadows, *Los Angeles County*. In *Russian America*, Stickeen River, in finely formed trapezohedral and dodecahedral crystals, imbedded in mica slate, and much resembling specimens from Monroe, Connecticut.

GOLD—(*Crystalline*.)

Placer County, at Irish Creek, three miles from Coloma, in arborescent and crystalline masses covered with octahedrons. (Eighteen hundred and fifty-four, cabinet of author.) At Forest Hill, in the same county, in the placer claims of the Messrs. Deidesheimer, in flattened and distorted octahedra. One crystal is a partially formed octahedron, with a rectangular base, one inch long by seven eighths of an inch wide. At Mameluke Hill, near Georgetown, in ragged crystalline masses, in a quartz vein. In *El Dorado County*, at Spanish Dry Diggings, in large masses of irregular dendritic crystallizations. One mass recently obtained weighed about sixteen pounds, and was purchased by Mr. Dickinson, of New York, for preservation. *Calaveras County*, a large partly formed crystal with octahedral edges; if perfect, would be two inches in diameter. *Tuolumne County*, flattened, distorted, octahedrons, from the Whiskey Hill Mine. *Mariposa County*, octahedrons, from the placers near Coulterville, but very rare. At the Princeton Mine, rarely, in nests and bunches of octahedrons, with brilliant faces.

Small delicate microscopic prisms of gold have been found in the vicinity of Sonora. They appear to be terminated with crystalline planes at both ends, and probably are elongated octahedrons. (From the collection of Dr. Snell.)

Crystals of spongy gold, from one eighth to one quarter of an inch in diameter, and as light, almost, as cork, were washed out by Dr. Hill, from a claim near Angel's. This is a condition of native gold which, it is believed, has not been hitherto noticed.

In *Plumas County*, Sherman Lode, Light Cañon, on coatings of green and blue carbonates of copper, proceeding from the decomposition of variegated copper pyrites or vitreous copper, in part. This gold was apparently deposited after the deposition of the carbonate of copper. The specimens are beautiful. (Cabinet of Mr. Waters, Sacramento.) *Mariposa County*, in a narrow vein of calcite, or dolomite, two inches wide, cutting slates; precise locality not known. The gold was in coarse masses and strings, in the middle of the vein. *Amador County*, near Drytown, in a vein of pearl spar, which is very pure and white, and without admixture with quartz or pyrites. The gold is in coarse masses in the midst of the pearl spar. (Specimens collected by Mr. James, and presented to the author.)

Gold in small quantities occurs at many places in the Coast Mountains, and associated with cinnabar. Some specimens of coarse gold have been found in the cinnabar veins of *Colusa County*. In Excelsior District, gold occurs with molybdenite. In *San Bernardino County*, at the Armagosa Mine, in feldspar and in calc spar, in a granitic rock, associated also with arsenolite.

Many large masses of gold have been taken from the placers of California at various times, of which no authentic record or description has been kept. In eighteen hundred and sixty-four, a large mass, one hundred and eighty-seven ounces (fifteen and seven twelfths pounds) was

taken from the Middle Fork of the American River, about two miles from Michigan Bluffs, *Placer County*.

The Carson Hill quartz claim, in *Calaveras County*, is celebrated for the size and weight of the masses of gold taken from it, some of which weighed six and seven pounds. (For further observations upon gold, its geology, and distribution, see an article at the end.)

GOLD AND TELLURIUM.

(See TELLURIUM.)

GRAY COPPER ORE.

With gold in the Pine Tree Mine, *Mariposa Grant*, and similarly at the Iona Company's claim, and others upon the same belt near Coulterville. (See TETRAHEDRITE.)

GRAPHITE.

About twenty miles above the Big Tree Grove, in crystalline scales; also at the mine of the Eureka Plumbago Company, (locality not known.)

GYPSUM.

Los Angeles County, in the Great Basin, near the entrance to the Soledad or "New Pass." *San Diego County*, along the banks of Carizzo Creek, and on the slope of the Desert. *Tulare County*, at the vein of stibnite, in crystals. *Nevada County*, near the Truckee Pass, in beautiful stellar radiations, from one half of an inch to three inches in diameter. (Cabinet of C. W. Smith, Grass Valley.)

HEMATITE—(*Specular Iron Ore*.)

This is a very abundant ore in California, and Arizona on the Colorado River, near Williams' Fork. Some of the dry arroyos or cañons in that region are crowded with blocks of the pure ore, from one to two feet in diameter. It is broken from beds and seams in an impure metamorphic limestone. The structure is granular, passing into micaceous, and freshly broken surfaces are extremely brilliant. Specimens of similar ore were brought in by Jules Marcou, in eighteen hundred and fifty-three, from the valley of Williams' Fork, further north. This ore occurs also in Humboldt Valley, and abundantly on the coast of Mexico, south of Acapulco.

HESSITE.

El Dorado County, (see TELLURET OF SILVER.)

HORNBLENDE.

At San Pablo. At Soledad, in syenite. At Vallecito, near Murphy's.

HYALITE.

Associated with semi-opal, in the Mount Diablo range, about thirty miles south of Mount Diablo. (In cabinet of J. B. Meader, Stockton.)

IDOCRASE.

Siegel Lode, *El Dorado County*. (?)

IODIDE OF MERCURY.

Santa Barbara County. (?)

ILMENITE.

El Dorado County, near Georgetown, from the gold washings; a very fine crystal, about an inch in diameter, with brilliant planes.

IRON ORES.

(See MAGNETITE and HEMATITE.)

IRIDOSMINE.

With platinum and gold in the beach sands of the northern counties. An analysis by C. A. Kurlbaum, Jr., in Dr. Genth's laboratory, of a sample of the residue from gold washing and amalgamation obtained by the author in eighteen hundred and fifty-four, gave 48.77 per cent of iridosmine. Found also as a residue in melting large lots of placer dust.

IRON PYRITES.

Found in most of the gold bearing quartz veins, either crystalline or massive; usually from one to five per cent of the whole weight of the ore. The value for gold varies greatly. At Grass Valley the concentrated sulphurets are worth from one hundred dollars to three hundred dollars per ton. Cabinet specimens of this mineral may be had in very large crystals, cubes, at the Fairmount claim, three miles from Pilot Hill, *El Dorado County*. It is there associated with garnets, brown spar, and specular iron. Found in brilliant druses lining fissures in the rocks of the E Pluribus Unum tunnel, three miles from Murphy's, *Calaveras County*. In brilliant, but small cubical crystals, in the gold ore of the Mameluke claim, near Georgetown, *El Dorado County*. *Mariposa County*, in large and perfect crystals, in the slates near the Deville Mine, south of Princeton Hill. *Placer County*, in large crystals, near the Grizzly Bear House, between Auburn and Forest Hill.

JASPER.

Very fine masses of brown and yellow jasper are abundant near Murphy's, *Calaveras County*, in the quartz veins, and in the debris from them.

KERARGYRITE.

(See CHLORIDE OF SILVER.)

LIGNITE.

San Francisco County, *Contra Costa County*, *Monterey County*; in *Amador County* in thick beds, at the base of the Sierra Nevada; used in lone

City for steam boilers; *Santa Barbara County*, *Humboldt County*, along the Eel River; *Klamath County*, at Gold Bluff, four hundred feet below the surface. (Lieut. Tuttle, U. S. A.) *Del Norte County*, at Point St. George. (Prof. Sherman Day.) In *Nevada*, *Washoe County*, along the Truckee River; in *Lyon County*, at the "Whitman Mines."

LIMONITE.

Mariposa County, at Burns' Creek, near the old road to Fort Miller, in a heavy outcrop of quartz; solid blocks of limonite, from two to four feet thick, are found there. (See Geol. Rec. Cal., p. 290.) *Oregon*, sixteen miles from Portland, in an extensive bed; specimens were sent by Governor Gibbs to the Mechanics' Fair exhibition in eighteen hundred and sixty-four.

MACLE.

Mariposa County. (See ANDALUSITE.)

MAGNESITE—(Carbonate of Magnesia.)

Tulare County, near Visalia, between Four Creeks and Moore's Creek, in the foothills, in solid beds of pure white, massive carbonate of magnesia, hard, fine-grained, and like unglazed porcelain in texture. The beds are from one to six feet thick, and are interstratified with talcose slates and serpentine. Similar beds are described to me as existing in the Diablo range, *Alameda County*, about thirty miles south of the mountain. *Mariposa County* and *Tuolumne County*; a heavy bed of magnesian rock, chiefly magnesite, charged with crystals of iron pyrites, accompanies the chief gold bearing quartz vein of those counties. This rock is charged also with nickel and chrome talc in green films, like the magnesite of Canada.

MAGNETITE.

In large beds, massive, and of superior quality, in *Sierra County*; also in octahedral crystals, forming beautiful cabinet specimens. In *Plumas County*, near the line, fine groups of octahedrons associated with garnet (?) and epidote. (?) *Mariposa County*, just east of the Mariposa Estate, on the trail to Yosemite. *Placer County*, at Utt's Ranch, six miles from Auburn. At the Cañada de las Uvas, *Los Angeles County*, in a vein about three feet thick, in limestone; in the syenitic granite of the mountains between the Great Basin and Los Angeles; seen in drift fragments in the Valley of Soledad, or "Williamson's Pass." *El Dorado County*, at Volcanoville, on the Middle Fork of the American River, near the great quartz vein. This locality was noted by the writer in eighteen hundred and fifty-three. This ore is, perhaps, titaniferous, but specimens are not at hand for examination. *Trinity County*, near Weaverville, in small veins. (Trask, 3d Report, 1865, p. 56.) *Nevada County*, three miles from Grass Valley. *El Dorado County*, fine octahedral crystals, in slate, near the Boston Copper Mine; in small brilliant crystals, with quartz, pyrites, and calc spar, at the El Dorado Excelsior Copper Claim.

MALACHITE—(Green carbonate of copper.)

In remarkably fine specimens, associated with crystalline blue carbonate, at Hughes' Mine, *Calaveras County*, (1861.)

MANGANESE, OXYD.

(See PYROLUSITE.)

MANGANESE, CARBONATE OF.

(See DIALLOGITE.)

MERCURY.

Native quicksilver is found in *Napa (?) County*, near the Geysers, at the Pioneer Claim, in a silicious rock.

(For sulphuret of mercury, see CINNABAR.)

, MERCURY, IODIDE OF.

Santa Barbara County, (Mr. G. E. Moore.)

MISPICKEL.

Grass Valley, *Nevada County*, at the Betsey Mine, with gold. This mineral is a common associate of gold in the quartz veins of the State. Crystals of mispickel are sometimes penetrated with gold.

MOLYBDATE OF LEAD.

State of Nevada, Comstock lode, in the upper part of the California Mine, in the "rusty lode," in small yellow crystals; in good crystals in the ——— (?) Mine, Weaver District, *Arizona*.

MOLYBDENITE.

Occurs in fine specimens at several localities in the gold region; *Nevada County*, at the Excelsior Mine, Excelsior District, abundantly with gold.

MOUNTAIN CORK.

Tuolumne County.

NICKEL.

(See EMERALD NICKEL.)

ORTHOCLASE.

San Diego County, in granitic veins along the road between Santa Isabel and San Pasquale, associated with tourmalines and garnet. *Fremont County*, at Fort Miller, in coarse grained granite, under the edge of the lava plateau.

OPAL—SEMI OPAL.

A white milky variety of opal is found in *Calaveras County*, at Mokelumne Hill, or on the hill near that place, known as Stockton Hill, on the west side of Chile Gulch. A shaft has been sunk there three hundred and forty-five feet, and the opals are found in a thin stratum of red gravel.

They vary in size from a kernel of corn to the size of walnuts. Many of them contain dendritic infiltrations of manganese oxyd, looking like moss. About a bushel of these stones are raised in one day, and are said to have a market value. A white milky variety, similar to the above, and without "fire," is found with magnesite in Mount Diablo Range, thirty miles south of the mountain. Also in the foothills of the Sierra Nevada, at the Four Creeks.

PEARL SPAR.

(SEE DOLOMITE.)

PETROLEUM.

Abundantly distributed throughout the coast counties from San Diego in the south to Crescent City in the north. The purest and most limpid natural oils have thus far been obtained from the localities north of San Francisco, in *Humboldt* and *Colusa Counties*. These oils are green by reflected light, and resemble the best samples from Pennsylvania. No abundantly flowing wells have yet been found. In *Humboldt County* there are many springs, giving both oil and gas, and numerous wells are in progress. So also in *Colusa County*, at Bear Valley, about twenty-five miles west of Colusa, several springs, giving a fine quality of lubricating oil and much gas. Also at Antelope District, nineteen miles west of Colusa. In *Contra Costa County*, ten miles from Oakland, there are petroleum springs, and a very superior oil has been obtained from the region of Mount Diablo. In *Tulare County* there is an extensive region where oil and gas springs abound. The localities are numerous in the Counties of *San Luis Obispo*, *Santa Barbara*, *Tulare* and *Los Angeles*.

PLATINA.

With iridium and iridosmine, on the coast at Cape Blanco, Southern Oregon. Analysis of a sample of the mixed metals from Port Orford, in eighteen hundred and fifty-four, gave forty-three and fifty-four one-hundredths per cent of platina.

PROUSTITE.—(*Light Red Silver Ore.*)

In the veins about Austin, *Lander County, Nevada*. At the Daney Mine, and occasionally in the ore of the Comstock lode.

PYRARGYRITE.—(*Dark Red Silver Ore.*)

(SEE RUBY SILVER.)

PYROLUSITE.

Red Island, Bay of San Francisco, in vein or bed 3' to 4' wide, in the metamorphic jaspery shales—the "prasoid" rocks. This is a remarkably pure ore of manganese, and has been extensively mined for shipment.

PYROPHYLLITE.

Occurs in the gold region; locality not known.

PYROXENE.

In fine crystals, dark green, near Mud Springs, *El Dorado County*.

PYROMORPHITE—(*Phosphate of Lead*.)

In *Nevada*, in the outcrops of the Comstock lode, especially the back ledges of the Ophir ground, giving green coats and crusts on the surface of the quartz.

PYRRHOTINE—(*Magnetic Pyrites*.)

Mariposa County, at the Iona Copper Company's tunnel, north side of the Merced River, on the trail from Bear Valley to Coulterville.

QUARTZ.

This abundant mineral is obtained in fine crystals in the quartz veins in various parts of the State, and in the mines of Washoe. Some large and well formed crystals, from three to four inches or more in diameter, have been found at Red Hill, in *Placer County*, (cabinet of C. W. Smith, Grass Valley,) and in the placer claims in the vicinity of Placerville, where also a fine large crystal of smoky quartz was found. *Mariposa County*, on Whitlock's and Shirlock's Creeks, in the quartz veins, in fine groups of crystals; also at the Mariposa Mine, and in the eastern parts of the Princeton vein. *Calaveras County*, at the Noble claim, on Domingo Creek. *Nevada County*, in the Grass Valley mines, often supporting gold between the crystals, and at the "French lode," (Eureka?) crystals of a light greenish tinge, like that of datholite.

RED OXYD OF COPPER.

Occurs sparingly in thin crusts and sheets with the surface ores of the principal copper mines in *Calaveras County*, especially the Union and the Keystone. In *Mariposa County*, at La Victoire Mine, with green and blue carbonates of copper. *Del Norte County*, at the Evoca, Alta, and other mines, in very good cabinet specimens, the cavities being lined with crystals. In *Plumas County*, and in the upper parts of most of the copper veins of the State. *Arizona*, at the Arizona Copper Mining Company's claim, near the Gila River, in large masses, with native copper and thin crusts of green carbonate. At the claim known as No. 15, Yavapai District, with native copper.

RUBY SILVER—(*Pgrargyrite*.)

This beautiful ore of silver was first observed in the Daney Mine, Washoe, by the writer, in eighteen hundred and sixty-one, and has since been found sparingly in the Ophir and the Gould and Curry. In the latter mine some very fine specimens were obtained by Mr. Strong, and are deposited in the cabinet of the company, at the office in Virginia City. This ore is abundant in the veins about Austin, Reese River, and is often so thoroughly spread through the quartz of the gangue as to give it a decided reddish color. It is generally associated with sulphuret of silver. No good crystals have yet been found.

SALT—ROCK SALT.

Abundant in the dry season, as an incrustation, throughout California. Found in large quantities in Nevada, in the beds of dessicated lakes at numerous places. About twelve miles north of Armagosa Mine, in large masses. In the Wasatch Mountains, southeast of Lake Timpanogos, on the headwaters of a small creek tributary to Utah Lake, in thick strata of red clay. (Fremont's Geog. Mem., 67.) This is said to be the same locality mentioned by Father Escalante, in his journal, and noted by Humboldt on his map as "*Montagnes de Sel Gemme*." Salt crystallizes from the spray of the waters of the Great Salt Lake, and is found abundantly on its shores, and on twigs and shrubs. The Great Salt Lake is a saturated solution of common salt. The shores in the dry season are incrustated with salt, and shallow arms of the lake present beds of salt for miles. Plants and shrubs are incrustated to a thickness of an inch or more with crystallized salt deposited by the spray. Five gallons of the water taken in the month of September, and evaporated by Colonel Fremont over a fire, gave fourteen pints of salt, which analysis showed to have the following proportions (*Fremont's Memoir*, 9):

Chloride of sodium	97.80
Chloride of calcium	0.61
Chloride of magnesium	0.24
Sulphate of soda	0.23
Sulphate of lime	1.12
	100.00

SCHORL.

(See TOURMALINE.)

SELENITE.

In beautiful stellar crystallizations on the crossing of the Little Truckee, Henness Pass road. The blades composing these aggregates are from half an inch to two inches in length, and from one eighth to one quarter of an inch in width. They are perfectly clear, and most of them hemitroped so as to form arrow-headed crystals. (Cabinet of C. W. Smith.)

SELENID OF MERCURY.

In large masses from the vicinity of Clear Lake.

SILVER—NATIVE.

This metal, in its native state, is rare in the State of California. At Silver Mountain District, (formerly *El Dorado County*), it occurs in the decomposed surface ores. *Los Angeles County*, in the decomposed parts of the Maris vein, Soledad, covering surfaces of syenite. *Sonora*, at the celebrated *Planchas de la Plata*, just south of the Arizona line, and near the meridian of Tubac. According to the best Mexican and Jesuit authorities, large masses of native silver were discovered there in seven-hundred and sixty-nine. One mass is reported to have weighed three thousand six hundred pounds. No vein has been found; the depo-

sit is a placer. (Pumpelly.) *Nevada—Storey County*, in the Comstock lode, in filaments, and matted, hairy masses—"wire silver," usually closely associated with silver glance and stephanite. At the Burning Moscow claim, (Ophir,) some large masses of ore were taken out in eighteen hundred and sixty-four, completely charged with the metal. Occurs also at the Daney Mine with native gold and sulphuret of silver. *Lander County*, in the veins about Austin, associated with the surface ores, such as the chloride and bromide of silver, and green and blue carbonates of copper. *Idaho Territory*, in large masses at the "Poor Man's lode," or "Candle-box Mine," where it was said the lumps of silver were as large as candle boxes. That a great quantity of large masses of the metal was taken out there is no doubt. It is common in the silver lodes of the Owyhee, and is usually very filamentous and finely divided and imbedded in granular quartz.

SILVER—(Telluret of.)

A single specimen was obtained by the author in eighteen hundred and fifty-four, near Georgetown, in *El Dorado County*. It had been washed out from the gold drift, and the parent vein has never been found.—(*Rep. Geol. Rec. Cal.*, 302.)

SMOKY QUARTZ.

A large crystal about six inches in diameter, from *Placer County*, and in the cabinet of Dr. White, Placerville.

SPHENE.

In small hair-brown crystals in the granite of the Sierra Nevada.

STEPHANITE—(Brittle Sulphuret of Silver.)

Very fine crystals of stephanite were obtained from the Ophir and Mexican Mines, *Nevada*, soon after they were opened. These crystals were from half an inch to two inches in length, but were generally imperfectly formed. They greatly resemble the crystallizations of vitreous copper from the Bristol Mine in Connecticut. A large collection of these was made by R. L. Ogden in eighteen hundred and fifty-nine and sixty, and were noticed by the writer in the Mining Magazine. They are now more rare, but have been found in nearly all the principal claims upon the Comstock lode. Some very good specimens were taken from the Gould and Curry, and preserved in the cabinet by C. L. Strong in eighteen hundred and sixty-four. They are frequently implanted among quartz crystals, in nests or geodes, and are covered with a hairy growth of wire silver.

Crystals of silver ore from Silver Mountain District are probably this species.

STIBNITE.

Tulare County, in a large vein near the Pass of San Amédo. (*Vide Rep. Geol. Rec. Cal.*, pp. 292-3.) It occurs in large, solid masses, boulders of which are numerous in the beds of the arroyos leading from the vein. In *Nevada*, at or near the Gem Mine, Dungen; at the Sheba Mine, in beautiful needle-like crystals; and at the De Soto and other mines in that vicinity; in Russ District, Great Basin.

STROYMEYERITE.

Arizona, Heintzleman Mine.

SULPHUR.

Colusa County; Napa County, at the Geysers. In *Nevada*, in extinct solfataras, Humboldt Valley.

SULPHURET OF SILVER.

Nevada, Comstock lode; occurs with stephanite in the Ophir, Mexican, Gould and Curry, and other mines upon that line of claims. It is also present in the ore of the vein at Gold Hill, and appears to be the chief source of the silver in those ores. It has not been observed in crystals. In the large chamber of the Ophir Mine, in eighteen hundred and sixty-one, it was very abundant, in irregular masses ramifying through the fragmentary white quartz so as to hold it together in hand specimens. Large masses of vein-stuff could be broken down, in which the sulphuret of silver constituted at least half of the whole weight. Native gold was commonly associated with it in that part of the mine. It is now more frequently found associated with copper pyrites and galena. This species is also found in small crystals in the ore of the Daney Mine, associated with native silver, gold, and ruby silver. It is common in the ores of Reese River, associated with ruby silver and manganese spar. It is probably the chief ore of silver in the Cortez District.

SULPHURET OF IRON.

(See IRON PYRITES.)

TELLURET OF SILVER.

(See SILVER.)

El Dorado County.

TETRAHEDRITE—(Gray Copper.)

Mariposa County, with the gold in the Pine Tree vein; also with the gold in the same or similar vein at the Crown lode, Emily Peak, and at Coulterville in several claims. *Calaveras County*, at Carson Hill, in the large vein, and associated with gold. This ore in decomposing leaves a blue stain of carbonate in the quartz, and where it is found the rock is generally rich in gold. In *Nevada* it occurs abundantly in the Sheba Mine, *Humboldt County*, massive and rich in silver. It is associated with the following species, which were noted from time to time by Mr. Moss, the Superintendent, and in part by the author: Ruby silver, argentiferous galena, antimonial galena, iron pyrites, blende, cerusite, calcite, quartz with acicular antimony, sulphuret of antimony in delicate needles and massive, native silver, bournonite. Found also in *Lander County*, with the silver ores of the veins near Austin; at the Comet lode, Veatch Cañon, south of Austin. *Los Angeles County*—At the Zapata claim, San Gabriel Mountains. *Arizona*—At the Heintzleman Mine, containing from one to one and a half per cent of silver. (Pumpelly.) Also at the Santa Rita Mine, associated with galena.

TELLURIUM AND GOLD—(*Tetradymite*?)

At the Melones and Stanislaus Mines, one mile south of Carson Hill, *Calaveras County*. Very beautiful specimens of native gold associated with tellurium were taken out of a vein from six to eighteen inches thick, and at a depth of two hundred feet from the surface. This telluret has a tin white color, and is not foliated like the tetradymite from the Field vein in Georgia. Its exact specific character is not yet determined.

TIN ORE—(*Oxyd of Tin*.)

(See CASSITERITE.)

TOPAZ.

In clear, colorless crystals, finely terminated, from one eighth of an inch to half an inch in diameter, found in the tin washings of Durango, Mexico. (Cabinet of the author, eighteen hundred and sixty-four.) Noticed by C. F. Chandler, *American Journal of Science*, eighteen hundred and sixty-five.

TOURMALINE.

San Diego County, north side of the Valley of San Felipe, in feldspathic veins, (for description and figure see Rep. Geol. Rec. Cal., Blake, p. 304;) *Tuolumne County*.

TREMOLITE.

White and fibrous in limestone, Columbia, *Tuolumne County*.

TUNGSTATE OF MANGANESE,

With tungstate of lime, in the Mammoth Mining District, *Nevada*. (C. T. Jackson, Proc. Cal. Acad. iii, 199.)

VARIEGATED COPPER ORE—(*"Horseflesh ore."*)

Sigel lode, in *Plumas County*.

VITREOUS COPPER.

(See COPPER GLANCE.)

ZINC.

(See BLENDE.)

PRINCIPAL PUBLIC AND PRIVATE
MINERALOGICAL AND GEOLOGICAL COLLECTIONS
IN CALIFORNIA,

KNOWN TO THE AUTHOR.

I.—PUBLIC COLLECTIONS.

STATE GEOLOGICAL COLLECTION—Sacramento and San Francisco; not arranged, and in part destroyed by fire in eighteen hundred and sixty-five, at the Pacific Warehouse.

STATE AGRICULTURAL SOCIETY'S—At Sacramento; partly in cases, but not classified or arranged.

SAN JOAQUIN AGRICULTURAL SOCIETY—At Stockton; collected chiefly by Dr. Holden; not large, nor well arranged.

CALIFORNIA ACADEMY OF NATURAL SCIENCES—At San Francisco; not arranged; in boxes, and stored, awaiting a suitable room or building for their display. This collection was made in great part by and through the exertions of Dr. J. G. Trask, and has many valuable specimens taken from our mines soon after their discovery.

COLLEGE OF CALIFORNIA—At Oakland. A collection of minerals and fossils of California; partly arranged.

SANTA CLARA COLLEGE—(No particulars known.)

ODD FELLOWS' LIBRARY ASSOCIATION—At San Francisco. A valuable miscellaneous collection of minerals, ores, fossils, and curiosities, chiefly the donation of the members of the Order; arranged in cases, at the Hall. The Order is indebted, chiefly, for this valuable addition to their rooms to the zeal and enthusiasm of their President, S. H. Parker, Esq.

OCCIDENTAL HOTEL—Lewis Leland, San Francisco. A collection containing many very choice and valuable specimens of ores and precious metals of the Pacific coast.

II.—PRIVATE COLLECTIONS.

W. P. BLAKE—At San Francisco and Oakland. A collection of minerals, ores, geological specimens, and fossils, from California, Nevada, Arizona, Idaho, Mexico, the Eastern States, Japan, and China, with some European minerals. About sixty boxes of this collection were destroyed in the Pacific Warehouse, by fire, in eighteen hundred and sixty-five. A portion, stored at the College and elsewhere, was uninjured. It is now partly in boxes, and partly in cases, in San Francisco, and at the College of California, Oakland. There are probably five thousand to six thousand specimens, a great part of them selected by the owner at the localities. It contains a valuable and extensive suite of crystalline gold.

Dr. J. M. FREY—Sacramento. A large and valuable miscellaneous collection of Pacific coast minerals, including a fine suite of gold in crystals. Arranged in part, in cases, in Sacramento.

Dr. JOHN HEWSTON, Jr.—San Francisco. Miscellaneous collection.

Dr. JONES—Murphy's, Calaveras County. A miscellaneous collection, chiefly local.

A. P. MOLITOR—San Francisco. Miscellaneous collection.

R. L. OGDEN—San Francisco. A miscellaneous collection of copper and gold ores. A large collection made by this gentleman up to eighteen hundred and sixty-one, was purchased by W. P. Blake, in eighteen hundred and sixty-one.

AUGUSTE RÉMOND—San Francisco. (No particulars known.)

Dr. SNELL—Sonora, Tuolumne County. A rich and valuable collection of fossils and aboriginal relics from the auriferous gravel under Table Mountain, and of minerals and ores from that region. This is the richest collection of relics of the mastodon and the mammoth in California.

T. J. SPEAR—San Francisco; formerly at Georgetown, in eighteen hundred and sixty-two and three. A small miscellaneous collection, which included an *ammonite*, from the gold slates of the American River; valuable to science as one of the evidences of the secondary age of the gold bearing rocks of California.

Dr. STOUT—San Francisco. A miscellaneous collection of Eastern and European specimens, arranged in cases.

C. W. SMITH—Grass Valley, Nevada County. An interesting collection, arranged in cases, and containing some choice specimens from the mines of Grass Valley.

Dr. WHITE—Placerville, El Dorado County. A miscellaneous collection, containing many interesting specimens from that region, and some foreign minerals, by exchange.

W. R. WATERS—Sacramento. Miscellaneous collection of minerals and ores, arranged in case.

Notes on the Geographical Distribution and Geology

OF THE

PRECIOUS METALS AND VALUABLE MINERALS

ON THE

PACIFIC SLOPE OF THE UNITED STATES.

If we attempt to delineate by colors upon a map the geographical distribution of the gold, silver, copper, and quicksilver localities of the Pacific slope, we obtain a series of nearly parallel belts or zones, following the general course or trend of the mountain chains and of the coast. So, also, if we enter the Golden Gate and travel eastward across the country to the Rocky Mountains, we pass successively through zones or belts of country characterized mineralogically by different metals and minerals.

In the Coast Mountains, for example, quicksilver is the chief, and the highly characteristic economical mineral. The localities of its ore are strung along the mountains through the counties north and south of the Golden Gate. We have also petroleum, sulphur, and calcareous springs, nearly coincident in their distribution. Passing from this grouping of minerals eastward over the coal beds of Mount Diablo, and crossing the great interior valley of California, (probably underlain by lignite,) we rise upon the slope of the Sierra Nevada, and reach the copper producing rocks. These form a well marked zone, which has been traced almost uninterruptedly from Mariposa to Oregon, following the lower hills of the Sierra Nevada.

East of the copper belt, (and in the central counties, over a chain of hills known as "Bear Mountains,") we find the great gold bearing zone, characterized by lines of quartz ledges, following the mountains in their general northwesterly and southeasterly course. This gold belt is composite in its character—the veins traversing either slates, limestones, sandstones, or granite.

Crossing the snow-covered crest of the Sierra, where in some parts iron ores have been found, we leave the region of gold and enter that of silver mingled with gold, extending up and down the interior eastern

slope of the Sierra throughout California, into Arizona and Mexico on the south, and Idaho on the north.

At the Reese River Mountains, further east, towards Salt Lake, the gold is replaced by silver, associated with copper, antimony, and arsenic; and this grouping is in its turn replaced by the gold bearing sulphurets of the Rocky Mountains. This is the *general* distribution of the precious metals. There are, doubtless, local exceptions.

It is evident that this distribution of the metals and minerals in zones has been determined by the nature of the rocky strata, and by their condition of metamorphism. It is worthy of note that the minerals of the coast ranges are chiefly the more volatile and soluble, such as cinnabar, sulphur, petroleum, and borax, distributed in rocks ranging from the tertiary to the cretaceous, inclusive.

The longitudinal extension of the gold bearing zone is yet undetermined. The metal has been traced through the whole length of California, through Oregon and Washington into British Columbia, and beyond, along the Russian possessions, towards the Arctic Sea. Southward, it is prolonged into Sonora and Mexico, and there is every reason to believe that its extension is coincident with the great mountain chain of North America in its course around the globe, into and through Asia.

After years of laborious search for fossils by which the age of the gold bearing rocks might be determined, I had the pleasure early in eighteen hundred and sixty-three, to obtain a specimen containing *Ammonites* from a locality on the American River, preserved in the cabinet of Mr. Spear. This fossil was of extreme importance, being indicative of the secondary age of the gold bearing slates, and was therefore photographed, and copies of it sent to the Smithsonian Institution at Washington, for description. It was subsequently noticed in the proceedings of the California Academy of Natural Sciences, September, eighteen hundred and sixty-four. The same year, when at Bear Valley, Mariposa County, upon the chief gold bearing rocks of California, I identified a group of secondary fossils from the slates contiguous to the Pine Tree Vein, and noticed them at a meeting of the California Academy, October third, eighteen hundred and sixty-four, announcing the jurassic or cretaceous age of these slates. The best characterized fossil was a *Plagiostoma*, (or *Lima*), to which I provisionally attached the name *Erringtoni*.* The attention of the geological survey having been directed to this locality by my announcement and exhibition of the fossils in San Francisco and at the Academy, Mr. Gabb, the Palæontologist of the Survey, visited the locality and obtained specimens. These fossils were of such interest and importance to science, and to the geological description of the State, that an extra plate was engraved for them and published in the appendix to the volume on the Geology, recently issued.†

Fossils of secondary age from Genessee Valley, in the northern part of the State, were common in collections in eighteen hundred and sixty-four, and are described by the State Geological Survey, volume one, palæontology. It appears also, from the same source, that Mr. King, a gentleman connected with the survey, had obtained *pelemnites* from the Mari-

posas rocks in eighteen hundred and sixty-four, but no figures or descriptions are given.

We may thus regard the secondary age of a part, at least, of the gold bearing rocks of the Sierra Nevada as established, a result of no small importance practically, for it destroys the dogma, which has been very generally accepted, that the Silurian or Palæozoic rocks are the repositories of the gold of the globe. We may now look for gold in regions where, before, it was generally presumed to be absent, because the formations were not Silurian or Palæozoic.

The Silurian age of the gold rocks of California has not always been assumed. It has been repeatedly questioned. In the preface to the writer's "Report of a Geological Reconnoissance in California" it is stated that a considerable part of the gold bearing slates of California are probably carboniferous. The absence of all evidence of Silurian fossils west of the Rocky Mountains is also distinctly noted—(p. 276.) The opinion of the comparatively modern age of the gold rocks has been steadily gaining strength and support for years past, and has been the subject of discussion in the daily journals.

The prevalence of gold in the Coast Mountains, in or in close proximity to rocks of *tertiary* age, leads us to question whether it may not occur in the rocks of this late period also. The fact, recently ascertained, that gold is very generally associated with cinnabar, makes it more than probable that the metal has been deposited in formations as recent even as the Miocene, (or middle tertiary,) for, according to the best evidence we now have, this is the age of a part, at least, of the quicksilver bearing rocks.

Such a result need not surprise us, although so far in opposition to generally existing views of the geological association of gold. The geological age of the rocks has manifestly nothing to do with the deposition of gold; it is only necessary that the rocks should have a favorable mineral composition and a suitable degree of metamorphism. On this general view, we may be prepared to find gold in rocks of any geological period, from the tertiary to the Laurentian or Huronian rocks, inclusive.

The lithology of the chief gold bearing zone or belt of rocks of California is interesting. The chief or "Mother Vein" extends through several counties, with occasional breaks or interruptions; and throughout its course preserves its distinguishing characters. It follows also the same geological horizon, or zone, keeping between well marked geological and geographical boundaries, so that a description of the strata adjoining it at one place will serve to give a general view of them throughout. A cross section in considerable detail was made on the Mariposa estate in eighteen hundred and sixty-four. This estate includes the southern end of the "Great Vein"—there known as the "Pine Tree." It also includes several veins lying west of the line of the Pine Tree, of which the most important is the "Princeton," noted for its richness and large production of gold. This group of veins follows a long valley between two high ridges—Bear Mountain on the west, and Mount Bullion on the east. Those ridges are formed of hard rocks; the rocks of the valley are argillaceous and sandy slates and sandstones. The stratification of these slates is remarkably regular and distinct—their thin outcrops standing sharply out at intervals in long lines in the ravines and on the hillsides, mark their trend, and show that they are nearly vertical, or have a slight inclination northeast or easterly. The general direction of

* In honor of Miss Errington, a lady residing on the estate, and who drew my attention to some impressions on the slates which she had picked up on the English trail, which proved to be fossils.
† I regret to observe, that in this publication, as well as in Mr. Gabb's notice of the fossils, no mention is made of my previous announcement, and that my part in the discovery and publication of the secondary age of the Mariposas gold rocks, is studiously and wholly ignored.

the outcrops and of the valley is northwest and southeast; but there are several local variations.

These slates are generally light colored or drab at the surface; but in depth they are black, like roofing slate, and break up into rhomboids. This is particularly well shown at the Princeton Vein. There are numerous intercalations of sandy layers passing into sandstones—sometimes into coarse grits, and even pebbly beds, and beds of slaty conglomerate. The softer and most finely laminated portion of the group is generally found near the medial line of the valley, and is the point at which the Princeton Vein occurs. It is near this part of the series, at the northern end of the estate, that the jurassic fossils occur.

The following is an approximate geological section of the estate, at right angles to the course of the rocks, and nearly over the Princeton Vein. It is a composite section, being made up of three distinct portions where the observations had extended, but all near together, so as to present a fair view of the sequence of the formations. The whole embraces a distance of about four miles, according to the scale of the small published map of the estate. The southwestern end is taken along Bear Creek, the middle portion across the Princeton Vein, and the remainder on a line near Upper Agua Fria, northeasterly to Bullion Ridge. The following is the sequence of formations from west to east:

SECTION ACROSS THE MARIPOSAS.

1. Coarse, heavy conglomerates, metamorphosed—Bear Mountains.
2. Compact crystalline slates; crystalline cleavage.
3. Conglomerate; slaty.
4. Argillaceous slates, regularly stratified; thick series.
5. Sandstone and sandy beds, (thin.)
6. Princeton gold vein; quartz three feet thick.
7. Argillaceous slates and quartz veins; the horizon of the jurassic fossils.
8. Magnesian rock and quartz veins.
9. Pine Tree or "Mother Vein," or its extension.
10. Argillaceous slates.
11. Conglomerate; slaty.
12. Compact slates.
13. Greenstone, limited in extent; probably a metamorphosed sandstone.
14. Sandstones and sandy slates.
15. Serpentine and magnesian rocks—the northern extension of Buckeye Ridge.
16. Compact slates, crystalline and much metamorphosed.
17. Conglomerates and sandstones, heavy and massive; the so-called "greenstone" of Mount Bullion Range.

This is the general outline of the formations. Both of the bounding ranges of the valley are formed by the heavy metamorphic conglomerates, so much altered and changed as to be scarcely recognizable. They are generally supposed to be formed of greenstone, and in some places they do not give any evidence of their sedimentary origin; in others, the outlines of the pebbles and boulders are distinct. These boulders are remarkably large and heavy. From the general similarity of the rocks of these two ranges—Bear Mountain on the west and Bullion Range on the east—together with the succession and character of the formations between, I am led to regard the whole series as a fold or plication, and the valley as either synclinal or anticlinal—probably the former.*

*The above section of the gold formation of the estate, and the substance of the observations upon it, were given in a report to F. L. Olmsted, Esq., in eighteen hundred and sixty-four. *Unedited.*

Bear Mountain Range is prolonged far to the north into Calaveras County, and there proves the separation between the Valley of Copperopolis, traversed by the Reed or Union copper lode, and the gold quartz region of Angel's Camp and Carson Hill. The whole belt of formations from Amador County, northeastward, through Calaveras, Tuolumne, and Mariposa Counties, is an interesting field for a geologist to work up, to show not only the geographical extent of the rocks and the veins, but the structure or folding of the whole. The two lines of hard conglomerate forming the high ridges, are distinct for nearly the whole distance. The serpentine rocks which accompany the gold formation are probably the result of local metamorphic action, for they often occur in lenticular or elipsoidal patches in the other rocks. So also the greenstone, in places, appears to be an altered portion of rocks, which at other points are distinctly sedimentary, and exhibit slaty stratification.

[NOTE.—Professor Whitney, finding that his time was so much pre-occupied with his duties as State Geologist that he could not prepare the article on the Physical Geography of the State, so notified the Board. Professor Blake was substituted as Geologist to the Board for eighteen hundred and sixty-six, and has very kindly contributed the foregoing article for eighteen hundred and sixty-five.]

IMPORTS.

BUTTER.

It is a singular and significant fact, that while California contained more milch cows, in eighteen hundred and sixty, in proportion to the number of inhabitants than any other State in the Union, she has, notwithstanding, ever since that time been one of the best markets for the products of the dairy of any other State of equal population in the world. The following table shows the number of milch cows to every one hundred persons in the different sections, and in the whole United States, and the amount of butter and cheese made from each one during the years eighteen hundred and sixty and eighteen hundred and fifty:

	Milch Cows.		Butter.		Cheese.	
	1860.	1850.	1860.	1850.	1860.	1850.
New England States.....	21	22	75	72	32	44
Middle States.....	24	25	87	80	25	31
Western States.....	27	28	58	49	10	13
Pacific States.....	56	16	15	10	5	2½
Southern States.....	29	30	22	19	5-16	5-16
United States and Territories.....	27	27	53	49	12	16

It will be seen by the above table that the Pacific States, California, and Oregon, in eighteen hundred and sixty, possessed over one cow for every two persons, while the New England and Middle States possessed less, and the Western States a small fraction more than one cow to every four persons; in other words, the Pacific States possessed more than double the amount of milch cows, in proportion to the population, than the other loyal States. And if we direct our inquiry in the premises directly to California, we find that she possessed more milch cows in proportion to her population, in eighteen hundred and sixty, than any other State in the Union; her cows at that time numbering two hundred

and five thousand four hundred and seven, while her population was three hundred and seventy-nine thousand nine hundred and ninety-four, making about two cows for every three persons. Considering such a state of facts, one would hardly have supposed that California would have continued to be a large importer of butter and cheese from the other States. Yet such is the ugly fact, notwithstanding our population has been constantly on the decline since that date. Taking the above figures into account, the following table does not speak very well for the farmers of California, or for the State itself.

TABLE

Showing the number of firkins and pounds of Butter imported into this State from the East during each of the last six years, and the average price for each year, and the whole number of pounds, and the whole cost:

Years.	Firkins.	Pounds.	Average price.	Total cost per year.
1860	53,103	5,310,300	27½ cents.	\$1,446,996 73
1861	36,388	3,638,800	28½ cents.	1,027,941 00
1862	72,536	7,253,600	21½ cents.	1,765,042 66
1863	63,240	6,324,000	24½ cents.	1,565,190 00
1864	56,171	5,617,100	32½ cents.	1,816,195 66
1865	60,828	6,082,800	35 cents.	2,128,980 00
Totals .....	.....	34,226 600	.....	\$9,768,346 05

It will be seen by the above table, that in the face of the facts above related, California has imported within the last six years from the loyal Atlantic States, thirty-four million two hundred and twenty-six thousand six hundred pounds of butter, at the enormous expense of nine million seven hundred and sixty-eight thousand three hundred and forty-six dollars and five cents; or one million six hundred and twenty-eight thousand and fifty-seven dollars and sixty-seven cents per annum.

By the census of eighteen hundred and sixty, we find there were, at that date twenty thousand eight hundred and thirty-six farmers in our State; and we have seen that they possessed among them two hundred and five thousand four hundred and seven cows.

Now, suppose these farmers had milked and properly cared for their cows in eighteen hundred and sixty-one, and made from each fifty-three pounds of butter, which is only the average number of pounds that was made from all the cows in the whole United States in eighteen hundred and sixty, the product would have been equal to ten million eight hundred and eighty-six thousand five hundred and seventy-one pounds. At twenty-eight and one quarter cents per pound, the average price at which butter sold at wholesale that year at San Francisco, this amount would have put into their pockets the handsome sum of three million seventy-five thousand four hundred and sixty-six dollars. Or, they could have supplied the whole amount of butter imported that year, pocketed the one million twenty-seven thousand nine hundred and forty-one dollars paid for it, and retained for their own consumption seven million two hundred and forty-seven thousand seven hundred and seventy-one pounds.

Instead of such a state of plenty, which the farmers could have produced for themselves and the State, the facts are that one half of them did not even enjoy the luxury of milk for their tea and coffee, and were themselves the consumers of their full proportion of the butter imported. But many of them, and those among the largest owners of stock, did not see a pound of butter on their tables for months at a time. It is true, this state of things is somewhat improved since eighteen hundred and sixty-one; but there is yet such a reckless, careless practice among the farmers in this State in regard to the dairy interests, and indeed in regard to stock raising in general, as can scarcely be accounted for upon any reasonable hypothesis. One fact may be stated as an explanation of the anomaly. Most of the stock (horned cattle) that were brought into this State in early days were bought up in the Western States by western men, and driven across the plains on speculation, and with an idea, principally, of supplying the market here with beef, which was then in great demand. In this manner the country was overstocked, and when this fact was apparent, cattle went as much below their real value as they had been above it, and being a drug in the market, no one desired to invest in cattle, as they only thought of the use that they could be put to for supplying meat and for their increase.

A few persons, however, being led by circumstances to see the opportunity, bought up cows, and locating near towns and cities, have become rich by supplying the citizens with milk. While there have been the same opportunities for accumulating wealth by the manufacturing of butter and cheese, those opportunities have not been embraced for the reason that there was a little more labor between the investment of the money in the cows and the return for their product. Then again, there was at one time a very prevalent idea that butter could not be made in our climate so as to keep any length of time. This idea had as little foundation in fact as the other very superficial idea that cattle were not desirable for the reason that they were very cheap. Both these notions are being exploded, and if our farmers will investigate this branch of business a little, they will see that there are yet as favorable opportunities for making money in the dairy business as there ever has been. But if they do not purchase their cows soon, they may have to pay exorbitant prices for them, as any one can see that from various causes stock are becoming more scarce in this State, and will soon become in good demand. The cattle disease is killing off the cattle to a frightful extent on the eastern continent, and the war in the Atlantic States has reduced the number there very much, while the severe winter of eighteen hundred and sixty-one and eighteen hundred and sixty-two, and the drought of eighteen hundred and sixty-four, have done their work in our State. Yet with all these facts before them, the farmers are raising no calves. As soon as they are from four to six weeks old they are sold to the butcher. This has been the case for the last three or four years, and the effect of the policy will soon be felt. Owing to this short-sighted practice of our farmers, California, one of the most favorable States in the Union for stock raising and dairy business, is making for herself a most unfavorable record as compared to her sister States, who have scarcely any of our natural facilities.

CHEESE.

In the above tables we have only shown the importations of butter. We now call attention to the following table, showing the amount of cheese that has been imported into California for the last three years:

Years.	Pounds.	Average price.	Total cost.
1863.....	537,000	11½ cents.	\$61,084 00
1864.....	317,400	16½ cents.	51,180 00
1865.....	531,800	18½ cents.	97,053 00
Totals.....	1,376,200	.....	\$209,317 00

It will be seen that the total number of pounds imported in three years is one million three hundred and seventy-six thousand two hundred, and the cost to the State was two hundred and nine thousand three hundred and seventeen dollars, equal to four hundred and fifty-eight thousand seven hundred and thirty-three pounds, per annum, at an annual cost of sixty-nine thousand seven hundred and seventy-two dollars. Add this sum to one million six hundred and twenty-eight thousand and fifty-seven dollars, the annual cost of the butter we import, and it shows that we pay annually the sum of one million six hundred and ninety-seven thousand eight hundred and twenty-eight dollars for the products of eastern dairies, while we have more than twice as many cows in proportion to the number of inhabitants as any one of the States from whom we buy this butter and cheese, and to whom we send our gold in exchange.

It is for our farmers to say how long this shameful and unnecessary state of things shall last. We hope not long. The making of butter and cheese is certainly a more profitable business than the raising of grain, even when conducted as a specialty. But if each farmer here would adopt the same system of farming that the farmers of New York do for instance—that is, to raise or produce on his farm a variety; some of all the staple products of the country—he would soon find farming a much more agreeable, independent, and profitable business than as at present conducted. No farmer in this State should buy a pound of butter or cheese, and none need do so. Yet each may have them in the family as plentifully as desirable, and at the same time contribute his mite and share towards supplying the non-producers of these articles with what they need, and thus retain in the State, and among the farmers themselves, over a million and a half of dollars, which is now annually expended in exchange for these articles alone.

BACON, HAMS, PORK, AND LARD.

By the census of eighteen hundred and sixty, there were in the State of California four hundred and fifty-six thousand three hundred and ninety-six hogs, and the whole population of the State that year was three hundred and seventy-nine thousand nine hundred and ninety-four, making very nearly five hogs to every four persons. This proportion of hogs to population was greater than in any other section of the Union, except the southern and western States.

The following table shows the number of hogs in the different sections, and in the United States and Territories, to each one hundred inhabitants, in eighteen hundred and fifty, and in eighteen hundred and sixty:

	1850.	1860.
New England States	13	10
Middle States	41	31
Western States	181	141
Southern States	215	175
Pacific States	23	101
States and Territories	131	106

It will be observed that in every section there has been a decrease in the number of swine, from eighteen hundred and fifty to eighteen hundred and sixty, except in the Pacific States. In eighteen hundred and fifty, California had less than three thousand, while in eighteen hundred and sixty she had increased to four hundred and fifty-six thousand three hundred and ninety-six—showing that the increase of the Pacific States was owing to the increase in California almost entirely.

In view of the above facts it would be natural to conclude that California had become a large exporter of pork, bacon, etc., and that probably the Atlantic States may have been under the necessity of calling on her for some of her extra product. This presumption would be very much increased by the fact that since eighteen hundred and sixty the grain raisers of California have complained very much for want of a market for the surplus grain, and have even exported grain to the Eastern States, and Europe, and China.

Let us examine California's figures in the pork trade for the last three years—and we invite the farmers to accompany us in that examination, as it may be they can profit by reflecting upon the matter a little:

TABLE

Showing the amount of bacon, hams, pork, and lard, imported into California within the last three years, and the cost of the same for each year, and for the whole time.

	1863.		1864.		1865.	
	Pounds.	Cost.	Pounds.	Cost.	Pounds.	Cost.
Bacon	1,221,750	\$171,045	1,410,075	\$170,971	804,375	\$155,902
Hams	1,627,750	301,133	1,123,230	224,646	1,079,315	231,052
Pork	929,400	99,449	2,182,400	264,446	1,714,000	329,945
Lard	798,460	107,793	1,316,280	174,407	1,528,860	346,541
Totals	4,577,260	\$679,420	6,031,985	\$834,470	5,126,550	\$1,062,540

Total number of pounds imported in the three years	15,735,795
Total cost of same	\$2,606,430
Average annual importation, (pounds)	5,245,265
Average annual cost	\$868,810

Thus it seems that notwithstanding the facts stated above, as to the relative number of hogs and population in California, and the rapid increase of the former from eighteen hundred and fifty to eighteen hundred and sixty, and notwithstanding the fact that in consequence of the war the Southern States have exported nothing in this line, and the Northern States have had a large army to feed, still they have been sending us bacon, hams, pork, and lard, at the rate of five million two hundred and forty-five thousand two hundred and sixty-five pounds per annum, and for which we have sent them annually, on an average, the sum of eight hundred and sixty eight thousand eight hundred and ten dollars, in gold.

During this same time our farmers have been laboring under the fear that if they raised a large quantity of grain they would not be able to find a remunerative market for what they feared would be a surplus. Hence we have frequently heard it remarked by farmers that there was no inducement in California to produce a large quantity of grain, or that there was no advantage in having a good crop, for the reason that the price would so much depreciate as to render a good crop less remunerative than a poor or scant one. To render agricultural pursuits successful in any country requires something more than the cultivation of a large number of acres of land, and something more even than the production of splendid crops on all these acres. The farmers of any country may produce ten times as much wheat and barley or any other product as is demanded for consumption, and still be unprosperous and poor. A mechanic in California would be considered very stupid indeed if he were to turn his attention entirely to the manufacture of sleighs and cutters, when only now and then one is called for, and when at the same time he could sell at a good profit all the wagons and carriages he could make. So it is with the agriculturists; they cannot expect to be prosperous and successful unless they turn their attention to the production of such articles as are in demand. We have often observed that those farmers in any country who make a practice of driving their grain to market, that is, who feed it to stock, and when fat, drive that to market, are generally if not universally the most prosperous. Especially has this been the case in California, as any one who will reflect for a moment will agree. In this way farmers who live at a great distance from markets can, to a certain extent, overcome this disadvantage, for it costs but a very little to drive a drove of fat hogs or cattle to market compared to the expense of transporting grain of an equal value to the same market. Again, good pork and beef have, as a general thing in California, especially in the winter season, commanded a much better price comparatively than grains. In fact, we believe no branch of agricultural business in our State for the last five or six years has presented the opportunity for so sure and profitable returns as stall or winter feeding cattle for the early spring market. Beef and pork has uniformly been high and poor in our markets for years past, from December to April, and unless a reform is brought about by the farmers of this

country, such will continue to be the case. It is hoped, however, that the farmers will learn to pay more attention to the wants and demands of the country, and thus strive to produce a greater variety of articles, instead of continuing to overstock the market with some particular products while we are constantly importing others which they can just as easily and more profitably produce.

SUGAR AND MOLASSES.

Very few persons have any idea of the quantity of sugar produced and consumed in the world. Neither have many any idea of the quantity consumed in California, the amount of money we annually pay for the same, and how easily we could supply enough for our own consumption and to spare.

The following table shows the annual production of sugar throughout the world:

Countries.	Pounds.
Bengalee, China, Siam.....	200,000,000
English Colonies.....	440,000,000
Spanish Colonies.....	650,000,000
Dutch Colonies.....	160,000,000
Swedish and Danish Colonies.....	20,000,000
French Colonies.....	220,000,000
France.....	303,000,000
Belgium.....	12,000,000
Brazil.....	350,000,000
United States.....	420,000,000
Germany.....	304,000,000
Russia.....	70,000,000
East Indias and other countries.....	1,951,494,000
Total pounds.....	5,100,494,000

The classification as to kinds, is supposed to be about as follows:

Class.	Pounds.
Cane sugar.....	2,900,000,000
Beet sugar.....	960,000,000
Maple sugar.....	40,494,000
Palm sugar.....	200,000,000
Total.....	5,100,494,000

One would naturally suppose that the United States, with her vast maple forests in the Northern States, and her sugar plantations in the

South, could supply her own demand; but such is far from being the case, as will be seen by the following table:

IMPORTS OF MOLASSES AND SUGAR INTO THE UNITED STATES.

Years.	Gallons Molasses.	Pounds Sugar.
Eighteen hundred and fifty-six.....	23,617,674	545,262,754
Eighteen hundred and fifty-seven.....	32,705,844	777,063,185
Eighteen hundred and fifty-eight.....	24,566,357	519,240,945
Eighteen hundred and fifty-nine.....	32,818,146	655,868,415
Eighteen hundred and sixty.....	30,922,633	694,879,785
Eighteen hundred and sixty-one.....	29,941,397	807,938,946
Totals for six years.....	174,572,051	4,000,254,030

In eighteen hundred and sixty there were produced within the United States sixteen million three hundred and thirteen thousand nine hundred and three gallons of molasses from Louisiana cane, and seven million one hundred and seventy-six thousand and forty-two gallons from Chinese cane, or sorghum—making the total production twenty-three million four hundred and eighty-nine thousand nine hundred and forty-five gallons, which, added to thirty million nine hundred and twenty-two thousand six hundred and thirty-three, the number of gallons imported that year, shows an annual consumption of fifty-three million five hundred and twelve thousand five hundred and seventy-eight gallons. In the same year there were produced within the United States from sugar cane, two hundred and thirty million nine hundred and eighty-two thousand pounds of sugar; and from the maple tree, forty million one hundred and twenty thousand two hundred and five pounds; making in all, two hundred and seventy-one million one hundred and two thousand two hundred and five pounds, which, added to six hundred and ninety-four million eight hundred and seventy-nine thousand seven hundred and eighty-five pounds, the amount imported that year, shows the amount consumed to have been about nine hundred and sixty-five million nine hundred and eighty-one thousand nine hundred and ninety pounds. This, it will be admitted, is a pretty large amount; and the question naturally arises: Why does not the United States produce all the sugar she needs for consumption, when she has so much land so well adapted to the business? Can France raise any sweeter beets or more of them to the acre than the United States? This will hardly be claimed. But let us turn our attention to our own State, and see how our record stands on the sugar question.

The following table shows the amount of molasses and sugar imported into California for the last three years:

GALLONS MOLASSES.	
Eighteen hundred and sixty-three.....	263,670
Eighteen hundred and sixty-four.....	334,620
Eighteen hundred and sixty-five.....	469,950
Total.....	1,068,240
POUNDS SUGAR.	
Eighteen hundred and sixty-three.....	30,141,513
Eighteen hundred and sixty-four.....	27,420,106
Eighteen hundred and sixty-five.....	29,808,891
Total.....	87,370,510
Cost of molasses.....	\$534,120 00
Cost of sugar.....	13,505,576 50
Total cost of both.....	\$14,039,696 50

For molasses and sugar imported, it will be seen that California has paid, during the last three years, the sum of fourteen million thirty-nine thousand six hundred and ninety-six dollars, or at the rate of four million six hundred and seventy-nine thousand eight hundred and ninety-nine dollars per year. We have reckoned the molasses at fifty cents a gallon, and the sugar at fifteen cents a pound, which is believed to be about the average paid for the different qualities at San Francisco.

This has been done in the face of the fact which has been demonstrated in France and in some of the Eastern States, that sugar and molasses can be produced from the *white beet of Silesia*, or common sugar beet, at a much less expense than they can be produced from the Louisiana cane, in Louisiana. In France the beet produces about ten tons to the acre on an average, while in this State the average product per acre, as established by actual experiment, is about fifty tons. The reason of this great difference in product in favor of California is very plain, when it is stated that in France, on account of climate, the beet can only occupy about seven months to mature in, while here it will grow the whole year, and may at all seasons be allowed to grow at least ten months; and the growth here, on account of the peculiarly favorable climate, is more rapid than in France. A single beet has been known to attain in one season, near Sacramento, the remarkable weight of one hundred pounds. Again, it is a well established fact that beets, or any other vegetable, secretes more saccharine matter when grown in a dry climate, without rain, than when grown in a wet climate, subject to frequent showers of rain. In the latter case, much more water and less sugar enters into the composition of all vegetables. Thus it has been ascertained in France that if beets are allowed to remain in the ground and grow after the fall rains set in, water increases and sugar decreases, thus rendering the crop less valuable. This fact can be detected by the taste.

In France, the average yield of sugar per acre is about one thousand pounds a year, while here the yield may be made to reach five times

that amount, or five thousand pounds. This, at fifteen cents a pound, would be worth seven hundred and fifty dollars—the product of one acre; while the product of one acre in France would only reach one hundred and fifty dollars, after paying the freight and duties on the importation to this country for a market; the duties, on an average, being about three and a half cents a pound.

Again, the cost of land in this State is really nothing compared to the cost in France. The above facts would seem to present sufficient inducement to determine capitalists to embark in the enterprise of producing sugar and molasses in California. But the State Legislature, realizing the great advantages of producing these articles to an extent sufficient to supply our home consumption, has created an additional inducement. In eighteen hundred and sixty-two, they passed a law which, among others, offers the following premiums for sugar:

“For the first one hundred bags of sugar, containing one hundred pounds each, produced from sorghum, five hundred dollars; for the same quantity produced the next succeeding year, two hundred and fifty dollars; for the same quantity produced the second succeeding year, one hundred and fifty dollars; for the same quantity produced the third succeeding year, one hundred dollars; for the same quantity of sugar produced from sugar cane, the same premiums, and upon the same conditions, shall be paid; and also for the same quantity produced from beet root, the same premiums, upon the same conditions.”

Manufactories for the production of beet sugar should be established in the vicinity where the beets are raised, that the refuse pulp and leaves may be fed to stock on the ground, and to save transportation. In this manner, land may be made to produce a crop every year and be constantly improved in productiveness, and at the same time made to support a very large number of cattle and swine. Upon this subject it is remarked by M. de Lavergue, in his recent work on French agriculture: “It was feared in the first instance that the cultivation of sugar beet would lessen the production of cattle and wheat, by occupying the best land. But this fear was ill-founded, at least relative to the best cultivated regions. It is now demonstrated that the manufacture of sugar, by creating a new source of profit, contributes to increase the other products of the soil. The extraction of the saccharine matter deprives the root of only part of its elements. Its pulp and foliage supply the animals with an abundance of food, and the returns of the sugar works enable them to add commercial manures which indefinitely increase the fertility of the soil. In eighteen hundred and fifty-five, the City of Valenciennes, the principal seat of the manufacture, was able to inscribe upon a triumphal arch these significant words: ‘Produce of wheat in the arondissement before the manufacture of sugar, nine hundred and sixty-one thousand one hundred and seventy-three bushels; number of oxen, seven hundred. Produce of wheat since the manufacture of sugar, one million one hundred and fifty-eight thousand two hundred and fifty-six bushels; number of cattle, eleven thousand five hundred.’”

Since the above was written, we have received the annual report of the Commissioner of Agriculture at Washington for eighteen hundred and sixty-four, and in it we find the following remarks upon this subject:

“The manufacture of sugar from the ‘sugar beet’ is attracting considerable attention in some parts of the west, and it is hoped will prove

successful and profitable. The almost total extinction of the manufacture of cane sugar in the southern portion of our country has given a new and increased interest in the production of this necessary of life. While the sorghum has been successfully introduced within a few years throughout the west, the beet as a sugar producing plant has not till recently been considered economical. The present exorbitant price of sugar has, however, induced some enterprising cultivators in Illinois to attempt the culture of the sugar beet, with great promise of success. Perhaps there is no soil or climate more suitable for this than that of the rich and fertile State of Illinois, whose deep alluvial soil is particularly well adapted to these roots, and there is now no reason why great quantities of the very best sugar should not be made there.

"The manufacture of beet sugar, first introduced into France by the Emperor Napoleon I, not sixty years ago, has become an immense business there and on other parts of the continent. The yield of beet sugar in eighteen hundred and sixty-one was four hundred and eighty thousand tons, being one sixth of all produced in the world, and one fourth as much as the cane sugar. The sugar product of the world that year was as follows:

Class.	Tons.
Cane sugar.....	1,950,000
Beet sugar.....	480,000
Palm sugar.....	100,000
Maple sugar.....	20,000
Total.....	2,550,000

"Considering that we pay nearly one hundred million dollars annually for foreign sugar, and that this may be made from the beet at less than half the present price of sugar from the cane, it would seem to be the part of wisdom in the Government to encourage it in some direct form."

EXTRACTION OF SUGAR FROM THE BEET.

We find the following description of the process of making sugar from the beet, as practised in France, in the introduction to the volume of the eighth census devoted to agriculture, and we deem it of sufficient importance to warrant its transfer to these pages:

"The beets are taken out of the ground when they have acquired their full growth, and the sound ones are carefully separated from those which have been injured by the operation. The beets are made into heaps in the field, and covered with leaves until there is danger of frost, when they must be housed or buried in pits. The upper part of the root, at the starting point of the stalk, is cut off, because this portion is harder and contains but little sugar. The beets, after being cleansed and washed, are thrown into a machine, which reduces them to a fine pulp and breaks up the cells. The pulp is placed in woollen bags laid on each other, and between which metallic plates are introduced; after which the mass is compressed by a screw press, and the juice which

flows out collected, and which constitutes about 0.4 of the juice contained. The bags and plates are then placed under the platform of an hydraulic press, which is unscrewed after having maintained the pressure for about ten minutes, when the bags are placed two by two between two plates and again still more powerfully pressed. In this manner from seventy-five to eighty per cent of beet juice may be extracted, only about fifteen per cent being left in the pulp.

"As the juice soon changes, it is essential to raise it as quickly as possible to a high temperature, in order to prevent fermentation, and to saturate with some lime the free acids, which would soon convert a portion of the sugar into glucose. For this purpose the juice on leaving the press is conveyed into a double-bottomed boiler, heated by steam, and the temperature is rapidly raised from one hundred and forty degrees to one hundred and fifty-eight degrees; afterwards it is conveyed into another boiler, also heated by steam, where the *desiccation*, or treatment with lime, is effected. Hydrated lime is usually made by pouring on quick lime ten times its weight of boiling water, and when the lime is entirely slacked, passing it over a metallic sieve, which arrests the grains of sand and the non-decarbonated portions. The juice is first heated to one hundred and sixty-seven degrees in the desiccating boiler, the milk of lime is then added, and the whole is stirred to render the mixture homogeneous.

"The lime combines with the free acids, the albuminous substances, the fatty and coloring matters, producing insoluble compounds, effecting, at the same time, a kind of clarification by carrying down with the insoluble compounds organic remains which were suspended in the juice. A thick scum having formed on the surface of the liquid, the latter is kept from boiling in order to prevent its rupture by the bubbles of steam. The proportion of lime added varies with the nature of the beet and their freshness—only three pounds for one thousand pints of juice being used at the beginning of the season, and with fresh beets, which quantity is gradually increased, and frequently reaches ten pounds before the close of the season.

"An excess of lime remains in the liquor, and forms a deliquescent compound with a portion of the sugar. In some factories it has been attempted to saturate it with a proper quantity of acid.

"When the operation is terminated, the liquor is drawn off, and filtered through animal chalk; the filters used for this purpose being large sheet iron cylinders, having a false bottom pierced with holes like a colander. A cloth is extended over the bottom, over which is spread very coarsely powdered chalk, added in successive layers, until it fills the cylinders to within one foot and a half of the top, when another cloth is laid upon it, and is covered by another metallic plate, pierced with holes; each filter receiving from six thousand to eight thousand pounds of charcoal. The filters should be kept constantly filled with fluid, which is easily done by means of a stop cock. After this process, by which the juice loses a portion of its coloring matter, and the lime in excess, which adheres to the charcoal, it is conveyed as rapidly as possible into the concentrating boilers, which are usually shallow, and are heated by a circulation of light pressure of steam, through copper tubes, arranged over the bottoms. The juice is raised to a temperature of seventy degrees in ten or twelve minutes. The workman judges by indications understood by experience if it is properly concentrated, or if the boiling is completed. During the ebullition, which terminates at a temperature of two hundred and sixty-six degrees to two hundred and seventy-five degrees, a considerable portion of the sugar is altered, and

to diminish the loss, the evaporation must be effected as rapidly as possible. This operation has been greatly improved by boiling in vacuo, that is, in close boilers, heated by steam, and brought into communication with worms and receivers, in which a vacuum is made. When ebullition takes place at a lower temperature, the quantity of sugar changed is much smaller.

"When the syrup is properly boiled, it is collected in a cooler, which generally receives the products of five or six boilings, and its temperature then falls to about one hundred and seventy-six degrees. Crystallization then commences; but as soon as any crystals form they are detached from the sides, and the syrup stirred to bring them again into suspension. When the temperature has fallen to one hundred and thirty degrees or one hundred and twenty-two degrees, the syrup is poured into large conical moulds of metal or baked clay, resting on the point, which is furnished with a hole previously stopped with a plug of wet muslin. The moulds are ranged on long benches with openings through which the escaping fluids fall into zinc gutters, whence they flow into reservoirs. The temperature of the room containing the moulds should be about eighty-six degrees. Crystallization is completed in about twenty-four or twenty-six hours, when the plug is removed from the opening in the mould, and the point of the loaf pierced with an awl, so as to draw off the molasses, which is again concentrated even further than the original syrup, and crystallized in moulds. When the molasses is too highly colored, as happens sometimes, it is diluted with a sufficient quantity of water, filtered through animal chalk, concentrated, and crystallized. The syrup which drains from the second sugar is frequently subjected to the same process for a third time, but the crystallization then requires a great length of time. When the sugar has drained sufficiently, the loaves are loosened, that is, the moulds are inverted and the loaves detached by gentle blows, after which, they are placed in the wareroom, protected from dampness. This is raw beet sugar, which requires refining before being fitted for consumption."

FRUITS.

Tables showing the number of pounds of Dried Apples, and boxes of Raisins imported in each of the last three years, and the cost of each year, and the total importation of each, and total cost of each for the whole time:

Fruits.	1863.	Cost.	1864.	Cost.	1865.	Cost.
Dried apples, pounds..	1,829,800	\$134,185	1,596,600	\$122,406	651,400	\$71,654
Raisins, boxes.....	25,254	101,016	44,173	176,692	32,036	128,144
Cost for each year.....		\$235,201		\$299,098		\$199,798
Total pounds dried apples in three years.....						3,077,800
Total boxes raisins in three years.....						101,463
Total cost of apples at San Francisco.....						\$328,245
Total cost of raisins at San Francisco.....						406,552
Combined cost of apples and raisins for three years....						\$735,097
Average cost of apples per annum.....						\$109,415
Average cost of raisins per annum.....						\$135,917

Now, no one will deny that California can produce apples and raisins at as cheap a rate, and of as good a quality, as any other part of the world. The experience of many of our farmers, and the exhibition at our fairs for the last few years, establish the affirmative of this proposition beyond a doubt.

TABLE

Showing the number of packages of other fruits imported in each of the last three years.

	1863.	1864.	1865.
Hogsheads.....	1	42	.....
Casks and barrels.....	1,644	1,700	1,265
Kegs	2,082	5,527	5,327
Boxes and cases.....	97,104	122,549	132,095
Packages.....	1,280	1,242	3,075

It will be observed that the articles in the above table are only named *fruits* in general terms. Nor have we any means of determining the quantity or pounds contained in the packages. It seems that importers have a manner of shipping articles so as to practise a deception on their brother importers, nor will they allow the reporters of the commercial papers to know definitely what articles are contained in the packages. The whole matter operates as blinds to other importers. They have their object, and, we suppose, a right to keep it to themselves; but we doubt whether they gain anything by it, and we are very certain the country cannot. It would be much better for the interest of the State if all the people were to know definitely what articles are imported, that they may make their calculations as to the production, probable price, etc. In the above list of barrels, casks, kegs, boxes, cases, etc., are imported figs, prunes, can fruits of all kinds, dates, limes, lemons, olives, oranges, and many other kinds of fruits, nearly all of which we are producing in small quantities in California, and can just as well produce them in large quantities, so as to supplant the importation and retain the money that goes out of the State to pay for them in circulation among us. Only a few years ago all our peanuts were imported; now we supply our own market, and could supply the world. So it may be with nearly all the fruits and nuts of the tropical countries that enter much into commerce. Being unable to say exactly how much the articles imported in the above named packages cost annually, we are compelled to resort to speculation on the subject. We have the opinion of the best judges, and they agree that it requires from two and a half to three million of dollars to foot the bills—in other words, that amount of money is shipped from the State in exchange for the articles annually imported under the above indefinite heads.

We will be safe in saying they cost us annually a million and a half. Then we will sum up our importations of fruit as follows:

Fruits.	Annual Cost.
Dried apples.....	\$109,415
Raisins	135,917
Other kinds.....	1,500,000
Total fruits that we can and should produce ourselves.....	\$1,745,332

In the preceding tables we have endeavored to collect and group together some of the more important products of the farm, which are to a great extent neglected by our farmers, but which they can produce with just as much ease and certainty as they can produce wheat and barley.

We have taken both the quantities and prices from the annual tables compiled by the *Mercantile Gazette and Prices Current*, of San Francisco, and they may be relied upon as correct. The prices are in all cases reckoned in gold and silver. Now, to present the whole matter in one view, we will submit the following

RECAPITULATION.

Article.	Quantity.	Cost.
Annual importation of butter (pounds).....	6,007,966	\$1,836,788
Annual importation of cheese (pounds).....	458,733	69,772
Annual importation of bacon, hams, pork, and lard, (pounds).....	15,245,265	868,810
Annual importation of molasses (gallons)....	356,080	178,040
Annual importation of sugar (pounds).....	29,123,503	4,501,858
Annual importation of dried apples (pounds)	1,025,933	109,415
Annual importation of raisins (boxes)	33,821	135,917
Annual importation of other fruits.....		1,500,000
Total annual average cost of articles imported, which we can and ought to raise and produce ourselves.....		\$9,200,600
Total cost for three years.....		\$27,601,800

We would only remark that when the farmers of California supply the demand for the above articles in our State, and annually put the above enormous sum of money in their own pockets, instead of allowing it to be exported to pay those of other States and countries who do supply that demand, then, and not till then, should they complain for want of a constant and remunerative market, or that farming is not or cannot be made a paying business in California. It is true that some of the importations specified go through our State to supply the demands of the people of Nevada; but this fact forms no excuse to our farmers.

They should not stand idle and see the farmers of the Eastern States, six thousand miles away, sending their produce through our borders to supply our nearest neighbors with butter, cheese, and meats. Nor should they allow France, and Italy, and the Sandwich Islands, to furnish them with fruits, sugar, and molasses, when they can just as well furnish our own people and our neighbors with all these articles, and many others that might be named in the same connection, and make money by doing so.

To all who would profit in the future by the lessons of the past, the following tables are recommended for study. They may be valuable to those who deal in domestic produce, as well as to those who till the soil and wish to get the best prices for what they raise. The prices stated are wholesale prices at San Francisco, in gold and silver coin. The tables are from the *Mercantile Gazette and Prices Current*:

AVERAGE PRICES

ARTICLES.	January.	Feb'y.	March.	April.	May.	June.	July.	August.	Sept. 1	October.	Nov.	Dec.	Average for year.
Bread, Pilot, # lb	\$ 43 1/2	\$ 43 1/2	\$ 5	\$ 5	\$ 13 1/2	\$ 58 1/2	\$ 53 1/2	\$ 61 1/2	\$ 57 1/2	\$ 63 1/2	\$ 71 1/2	\$ 71 1/2	\$ 57 1/2
Candies, Adamantine, # lb	\$ 17 1/2	\$ 17 1/2	\$ 23	\$ 17	\$ 17 1/2	\$ 17 1/2	\$ 17 1/2	\$ 17 1/2	\$ 16 1/2	\$ 18 1/2	\$ 19 1/2	\$ 19 1/2	\$ 17 1/2
Coffee, Rio, # lb	\$ 23 1/2	\$ 23 1/2	\$ 23	\$ 23	\$ 23 1/2	\$ 23 1/2	\$ 23 1/2	\$ 23 1/2	\$ 23 1/2	\$ 23 1/2	\$ 22	\$ 21	\$ 22 1/2
Cement, # lb	\$ 3 00	\$ 3 00	\$ 3 00	\$ 3 00	\$ 3 00	\$ 3 00	\$ 3 00	\$ 3 00	\$ 3 00	\$ 4 16 1/2	\$ 3 50	\$ 3 33 1/2	\$ 3 33 1/2
Coal, Anthracite, # ton	\$ 24 00	\$ 23 33	\$ 22 60	\$ 17 50	\$ 15 33	\$ 13 00	\$ 14 00	\$ 13 00	\$ 13 00	\$ 13 00	\$ 11 75	\$ 11 00	\$ 16 12
Drilling, Bro. # yard	\$ 22 1/2	\$ 24	\$ 24 1/2	\$ 25 1/2	\$ 25 1/2	\$ 27 1/2	\$ 27 1/2	\$ 27 1/2	\$ 27 1/2	\$ 27 1/2	\$ 27 1/2	\$ 32 1/2	\$ 26 1/2
Flour, California, # bbl	\$ 4 87 1/2	\$ 4 92 1/2	\$ 0 29 1/2	\$ 6 25	\$ 7 83 1/2	\$ 7 99 1/2	\$ 8 29 1/2	\$ 9 41 1/2	\$ 9 79 1/2	\$ 9 87 1/2	\$ 11 00	\$ 10 75	\$ 7 18 1/2
Wheat, # 100 lbs	\$ 1 38 1/2	\$ 1 44 1/2	\$ 1 57 1/2	\$ 1 96	\$ 2 07 1/2	\$ 2 05 1/2	\$ 2 08 1/2	\$ 3 25	\$ 3 41 1/2	\$ 3 64 1/2	\$ 4 00	\$ 3 55 1/2	\$ 2 72
Barley, # 100 lbs	\$ 1 82 1/2	\$ 1 82 1/2	\$ 2 60 1/2	\$ 2 61 1/2	\$ 3 53 1/2	\$ 3 41 1/2	\$ 3 35 1/2	\$ 3 20 1/2	\$ 3 25	\$ 3 40 1/2	\$ 3 78 1/2	\$ 3 57 1/2	\$ 2 94 1/2
Oats, # 100 lbs	\$ 1 55 1/2	\$ 2 01	\$ 2 03 1/2	\$ 2 03 1/2	\$ 3 25	\$ 3 00	\$ 3 00	\$ 2 75	\$ 2 70 1/2	\$ 3 18 1/2	\$ 3 18 1/2	\$ 2 95 1/2	\$ 2 75 1/2
Corn, # 100 lbs	\$ 1 40 1/2	\$ 1 78 1/2	\$ 2 25	\$ 2 54 1/2	\$ 2 91 1/2	\$ 3 00	\$ 3 13 1/2	\$ 3 15	\$ 3 37 1/2	\$ 3 31 1/2	\$ 3 28 1/2	\$ 2 62 1/2	\$ 2 74 1/2
Gunny Bags, in bales, each	\$ 20 1/2	\$ 20 1/2	\$ 20 1/2	\$ 20 1/2	\$ 20 1/2	\$ 18 1/2	\$ 18 1/2	\$ 18 1/2	\$ 17 1/2	\$ 19 1/2	\$ 21	\$ 21	\$ 19 1/2
Hay, # ton	\$ 17 00	\$ 16 33	\$ 28 33	\$ 28 33	\$ 29 25	\$ 29 17	\$ 26 25	\$ 25 00	\$ 25 33	\$ 28 00	\$ 34 33	\$ 34 33	\$ 26 85
Hops, Eastern, # lb	\$ 40 42 1/2	\$ 38 26 1/2	\$ 30	\$ 30	\$ 30	\$ 36 60	\$ 35 00	\$ 34 17	\$ 30 33	\$ 35 00	\$ 50	\$ 50	\$ 34 1/2
Iron, Scotch Pig, # ton	\$ 47 1/2	\$ 47 1/2	\$ 37 50	\$ 40 00	\$ 40 00	\$ 36 60	\$ 35 00	\$ 34 17	\$ 30 33	\$ 35 00	\$ 50	\$ 50	\$ 34 1/2
Lumber, Humboldt, # M	\$ 19 00	\$ 19 00	\$ 19 83	\$ 20 00	\$ 20 00	\$ 19 33	\$ 17 33	\$ 17 00	\$ 17 00	\$ 17 00	\$ 17 00	\$ 17 00	\$ 18 29
Nails, Cut, # lb	\$ 4	\$ 4	\$ 4 1/2	\$ 4	\$ 4 1/2	\$ 4 1/2	\$ 4 1/2	\$ 4 1/2	\$ 4 1/2	\$ 4 1/2	\$ 4 1/2	\$ 4 1/2	\$ 4 1/2
Provisions—Beef, Mess, # lb	\$ 10 50	\$ 10 50	\$ 10 00	\$ 10 00	\$ 10 00	\$ 10 00	\$ 10 00	\$ 10 00	\$ 10 00	\$ 10 00	\$ 10 00	\$ 10 33 1/2	\$ 10 11 1/2
Pork, Mess, # lb	\$ 22 50	\$ 19 00	\$ 16 00	\$ 15 16	\$ 16 00	\$ 17 00	\$ 17 33	\$ 17 50	\$ 20 00	\$ 23 06	\$ 26 50	\$ 26 50	\$ 19 75
Pork, Clear, # bbl	\$ 25 00	\$ 24 16	\$ 20 67	\$ 19 33	\$ 18 00	\$ 18 67	\$ 19 33	\$ 19 50	\$ 21 67	\$ 24 33	\$ 27 67	\$ 28 00	\$ 22 19
Bacon, East, # lb	\$ 12 1/2	\$ 13	\$ 13	\$ 13	\$ 12 1/2	\$ 12 1/2	\$ 11 1/2	\$ 10	\$ 10 1/2	\$ 10 1/2	\$ 12 1/2	\$ 13 1/2	\$ 10 1/2
Hams, Billings, # lb	\$ 20	\$ 20	\$ 20	\$ 20	\$ 20	\$ 20	\$ 20	\$ 20	\$ 20	\$ 20	\$ 20	\$ 20	\$ 19 1/2
Butter, # lb	\$ 27 1/2	\$ 28	\$ 30 1/2	\$ 40	\$ 36 1/2	\$ 34 1/2	\$ 29 1/2	\$ 24 1/2	\$ 30 1/2	\$ 33 1/2	\$ 36 1/2	\$ 36 1/2	\$ 32 1/2
Lard, cases, # lb	\$ 13 1/2	\$ 11 1/2	\$ 10 1/2	\$ 12 1/2	\$ 12 1/2	\$ 12 1/2	\$ 12 1/2	\$ 14 1/2	\$ 14 1/2	\$ 15 1/2	\$ 14 1/2	\$ 14 1/2	\$ 16 1/2
Cheese, East, # lb	\$ 13 1/2	\$ 15 1/2	\$ 14 1/2	\$ 14 1/2	\$ 15 1/2	\$ 15 1/2	\$ 15 1/2	\$ 15 1/2	\$ 21 1/2	\$ 21 1/2	\$ 23 1/2	\$ 23 1/2	\$ 16 1/2
Rice, No. 1 China, # lb	\$ 5	\$ 5	\$ 5	\$ 5 1/2	\$ 6 1/2	\$ 6 1/2	\$ 6 1/2	\$ 7	\$ 8 1/2	\$ 9	\$ 9 1/2	\$ 9 1/2	\$ 6 1/2
Salt, Carmen Island, # ton	\$ 10 00	\$ 11 00	\$ 11 00	\$ 10 00	\$ 10 00	\$ 12 00	\$ 13 00	\$ 12 00	\$ 10 00	\$ 10 00	\$ 10 16 1/2	\$ 10 33	\$ 10 79
Sauers—Alcohol in bottle, # gal	\$ 1 34 1/2	\$ 1 48 1/2	\$ 1 66 1/2	\$ 1 68 1/2	\$ 1 75	\$ 1 87 1/2	\$ 2 00	\$ 2 03 1/2	\$ 1 96 1/2	\$ 1 86 1/2	\$ 1 81 1/2	\$ 1 65	\$ 1 74 1/2
Brandy American, # gal	\$ 84 1/2	\$ 81 1/2	\$ 94 1/2	\$ 92 1/2	\$ 1 07 1/2	\$ 1 07 1/2	\$ 1 10	\$ 1 10	\$ 1 03 1/2	\$ 1 10	\$ 1 05	\$ 1 05	\$ 1 00 1/2
Pure Spirits American, # gal	\$ 84 1/2	\$ 84 1/2	\$ 94 1/2	\$ 92 1/2	\$ 1 07 1/2	\$ 1 07 1/2	\$ 1 08 1/2	\$ 1 10	\$ 1 03 1/2	\$ 1 07 1/2	\$ 99 1/2	\$ 1 01 1/2	\$ 1 00 1/2
Whisky American, # gal	\$ 71 1/2	\$ 81 1/2	\$ 88 1/2	\$ 85	\$ 1 02 1/2	\$ 1 01 1/2	\$ 1 09 1/2	\$ 1 08 1/2	\$ 1 02 1/2	\$ 1 10	\$ 1 01 1/2	\$ 97 1/2	\$ 1 00 1/2
Rum, N. E. # gal	\$ 71 1/2	\$ 1 01 1/2	\$ 1 18 1/2	\$ 69	\$ 1 25	\$ 1 01 1/2	\$ 1 58 1/2	\$ 1 75	\$ 1 43 1/2	\$ 1 50	\$ 1 43 1/2	\$ 1 40	\$ 1 30 1/2
Spirits Tarponite, # gal	\$ 2 65 1/2	\$ 2 45 1/2	\$ 2 20	\$ 2 25	\$ 2 00	\$ 1 91 1/2	\$ 1 50	\$ 1 55	\$ 1 50 1/2	\$ 1 60	\$ 1 39 1/2	\$ 1 00	\$ 1 30 1/2
Skadines, H. I. # ton	\$ 3 27 1/2	\$ 3 10 1/2	\$ 3 12 1/2	\$ 3 01 1/2	\$ 3 21 1/2	\$ 3 35	\$ 3 00	\$ 2 98 1/2	\$ 2 90	\$ 2 90	\$ 3 13 1/2	\$ 3 08 1/2	\$ 3 07 1/2
Sugar—No. 1 China, # lb	\$ 12	\$ 12 1/2	\$ 15 1/2	\$ 15 1/2	\$ 16 1/2	\$ 12 1/2	\$ 12 1/2	\$ 11 1/2	\$ 11 1/2	\$ 11 1/2	\$ 13	\$ 13	\$ 12 1/2
New York Crushed, # lb	\$ 10 1/2	\$ 12 1/2	\$ 15 1/2	\$ 15 1/2	\$ 16 1/2	\$ 12 1/2	\$ 12 1/2	\$ 11 1/2	\$ 11 1/2	\$ 11 1/2	\$ 17	\$ 16 1/2	\$ 15 1/2
Wines—Claret, # cask	\$ 38 50	\$ 30 50	\$ 40 00	\$ 40 00	\$ 41 25	\$ 41 25	\$ 45 43 1/2	\$ 47 50	\$ 47 50	\$ 47 50	\$ 45 83 1/2	\$ 44 00	\$ 43 19 1/2
Wines—Claret, # cask	\$ 3 12 1/2	\$ 3 12 1/2	\$ 3 08 1/2	\$ 3 00	\$ 3 25	\$ 3 25	\$ 2 83 1/2	\$ 2 70 1/2	\$ 2 75	\$ 2 75	\$ 2 75	\$ 2 75	\$ 2 93 1/2
Wines—Claret, # cask	\$ 11 1/2	\$ 11 1/2	\$ 11 1/2	\$ 11 1/2	\$ 13 1/2	\$ 13 1/2	\$ 13 1/2	\$ 13 1/2	\$ 13 1/2	\$ 13 1/2	\$ 11 1/2	\$ 11 1/2	\$ 12 1/2
Wool—Native California, # lb	\$ 17 1/2	\$ 17 1/2	\$ 17 1/2	\$ 17 1/2	\$ 19	\$ 19	\$ 19	\$ 19	\$ 16 1/2	\$ 16 1/2	\$ 16 1/2	\$ 16 1/2	\$ 17 1/2

AVERAGE PRICES

Of certain leading articles of merchandise for every month during 1865, and the average for the whole year.

ARTICLES.	January.	Feb'y.	March.	April.	May.	June.	July.	August.	Sept.	October.	Nov.	Dec.	Average for year.
Bread, Pilot, # lb.	7	7	7 1/2	7 1/2	8	7	6 1/2	5 1/2	5	4 1/2	4 1/2	4 1/2	4 1/2
Candles, Adamantine, # lb.	18 1/2	21 1/2	21 1/2	21 1/2	21 1/2	21	19 1/2	19 1/2	19 1/2	19 1/2	19 1/2	19 1/2	19 1/2
Coffee, Rio, # lb.	8 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00
Genent, # lb.	11 00	11 25	11 37 1/2	11 37 1/2	10 38 1/2	9 50	9 50	8 87 1/2	4 50	4 75	4 92	4 00	4 35
Coal, Anthracite, # ton	55	85	81 1/2	23	33 1/2	33 1/2	33 1/2	33 1/2	16 00	17 00	18 50	18 84	18 80
Drilling, Bro. yard	7 1/2	10	10	5 1/2	3 1/2	3 1/2	10 1/2	11 1/2	32 1/2	18 1/2	18 1/2	18 1/2	11
Dried Apples, # lb.	10 06 1/2	12 75	14 50	14 50	14 00	10 50	6 25	5 45	6 25	6 43 1/2	6 50	6 00	6 00
Flour, California, # lb.	8 80	4 58	4 90	4 83 1/2	4 75	3 15	1 88	1 67 1/2	1 81 1/2	1 90	1 90	1 90	1 90
GRAIN—Wheat, # 100 lbs.	3 87	8 06	3 00	2 87 1/2	1 81 1/2	1 20	1 03	1 03 1/2	1 36 1/2	1 45	1 45	1 45	1 45
Barley, # 100 lbs.	2 85	2 95	2 89	2 82 1/2	1 90 1/2	1 60	1 78 1/2	1 62 1/2	1 37 1/2	1 45	1 45	1 45	1 45
Oats, # 100 lbs.	2 74	2 95	8 16 1/2	3 44	3 13 1/2	2 50	3 00	3 62 1/2	3 00	2 12 1/2	1 96	1 58 1/2	2 78 1/2
Cor'n, # 100 lbs.	21	22	24	24	25	23 1/2	23 1/2	23 1/2	22 1/2	19	18 1/2	1 19 1/2	22 1/2
Gunny Bags, in bales, each.	26 25	28 16	26 83	17 83	15 00	12 00	12 50	12 50	12 50	12 50	13 75	16 00	17 1 1/2
Hay, # ton	50	40	40 1/2	32 1/2	30	30	30	33 1/2	38 00	38 00	38 75	38 00	38 00
Hops, Eastern, # lb.	35 75	38 83	38 25	80 66	40 00	40 00	38 25	38 75	38 00	38 00	38 75	38 00	38 00
Iron, Scotch Pig, # ton	17 00	17 00	17 00	17 00	17 00	17 00	17 00	17 00	17 00	17 00	17 00	17 00	17 00
Lumber, Humboldt, # M.	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2
Nails, Cut, # lb.	4	4	4	4	4	4	4	4	4	4	4	4	4
PROVISIONS—Beef, Mess, # lb.	11 17	12 75	18 50	13 00	13 50	10 50	10 00	15 00	12 25	18 00	15 00	15 00	12 98
Pork, Mess, # lb.	27 66	32 66	35 00	35 00	35 50	38 00	36 00	36 00	38 50	41 00	36 83	38 83	38 00
Pork, Clear, # lb.	29 66	35 66	38 00	38 15	39 50	39 50	38 50	39 00	43 50	48 25	40 00	36 00	38 00
Rice, No. 1, # lb.	17 1/2	21 1/2	22	21 1/2	22	21	23 1/2	24	26 1/2	27	26 1/2	23 1/2	21 1/2
Hams, Billings, # lb.	20 1/2	21 1/2	22	22	22	21	23 1/2	24	26 1/2	27	26 1/2	23 1/2	21 1/2
Butter, # lb.	32	33	33 1/2	31 1/2	33 1/2	38 1/2	34 1/2	32 1/2	37 1/2	41	39	36	35
Lard, cases, # lb.	16 1/2	16 1/2	21	22	22 1/2	19	22 1/2	24	26	27 1/2	26 1/2	22 1/2	22 1/2
Cheese, East, # lb.	15 1/2	17	19	19	19	19	20	24	19 1/2	17 1/2	15 1/2	14 1/2	18 1/2
Rice, No. 1 China, # lb.	11	10	12 1/2	12 1/2	11 1/2	10 1/2	10 1/2	10 1/2	9 1/2	8 1/2	8	8	9 00
Salt, Carmen Island, # ton	10 00	10 00	8 66	8 00	7 87	7 50	7 50	7 75	8 00	15 25	13 00	11 68	9 60
Squars—Alcohol, in bbls, # gal	1 90	2 08 1/2	2 26 1/2	2 29	8 25	2 98 1/2	2 93 1/2	2 87 1/2	2 90	2 97 1/2	3 00	3 02	2 75
Brandy, American, # gal	1 18 1/2	1 20	1 80	1 66 1/2	2 00	1 67 1/2	1 60	1 72 1/2	1 65	1 65	1 65	1 68	1 57 1/2
Pure Shirts, American, # gal	1 16	1 21 1/2	1 40	1 65	1 55	1 67 1/2	1 62 1/2	1 61 1/2	1 64	1 70	1 90	1 78 1/2	1 60 1/2
Whiskey, American, # gal	1 15	1 30	1 38 1/2	1 63 1/2	1 52	1 67 1/2	1 62 1/2	1 68 1/2	1 62 1/2	1 72 1/2	1 71	1 70	1 57 1/2
Run, N. E., # gal	1 68	1 62 1/2	1 71	1 87 1/2	1 51 1/2	1 67 1/2	1 50	1 65	1 65	1 66 1/2	1 64	1 66 1/2	1 65 1/2
Spirits Turpentine, # gal	1 96 1/2	1 06 1/2	1 12 1/2	1 05 1/2	1 00	1 00	1 50	1 45	1 17 1/2	1 08	1 00	1 98 1/2	1 11
Sardines, #c-lxs, # doz	3 20	8 40	8 46 1/2	8 47 1/2	3 46 1/2	3 36	3 36	3 32 1/2	3 35	3 50	3 50	3 48	3 40
SUGAR—No. 1 China, # lb.	18	18	18	13	12 1/2	13 1/2	12 1/2	11 1/2	11	11	11	12 1/2	12 1/2
New York Crushed, # lb.	17	17 1/2	17	16 1/2	15 1/2	14 1/2	14 1/2	15 1/2	15 1/2	16	16	16	16
WINE—Claret, # case	41 58	44 50	49 00	49 00	49 00	49 00	49 00	49 00	49 00	49 00	43 00	88 50	46 65
Claret, cases	2 75	2 75	3 05	3 07	3 07	3 07	3 07	3 07	3 07	3 07	3 07	3 25	3 03
Wool—Native California, # lb.	12 1/2	12 1/2	13	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2
American, # lb.	19	19	19	19	20	20	18 1/2	15	15 1/2	18 1/2	18 1/2	17 1/2	18 1/2

EXPORTS.

Comparative statement of the exports of California produce to various countries for six years past.

TO NEW YORK AND BOSTON.

Articles.	1860.	1861.	1862.	1863.	1864.	1865.
Barley, bags.....	16,510	187,069	6,924	6,037	13,408	42,490
Beans, bags.....				1,755	12,640	
Bones, number.....		55,635		4,964	4,414	100,000
Copper ore, sacks.....		11,155	72,938	109,470	197,017	302,794
Copper ore, casks.....		4		61	1,043	
Copper ore, tons.....			42	10	67	
Copper ore, boxes.....			92		54	
Copper ore, packages.....	401			1,084	54	
Copper ore, boulders.....			16		2	
Flour, barrels.....		30	21	12	12	10
Glue, barrels.....	121	240		20	211	57
Glue stock, tons.....			6			
Hides, number.....	200,116	177,998	315,751	308,189	329,381	335,690
Hide cuttings, bales.....	122	17	34	2	57	100
Horns, number.....	29,249	39,035	35,196	84,734	155,860	107,964
Horns, packages.....	239	19	29		9	118
Leather, packages.....	69	4	253		264	1,540
Mustard seed, bags.....	642	1,238	1,611	4,420	1,460	7,050
Quicksilver, flasks.....	400	600	2,265	95		6,320
Rags, bales.....		876	577	1,119	4,480	2,856
Skins, casks.....		119	162	156		24
Skins, bales and bundles.....	939	752	1,878	1,929	1,340	214
Skins, number.....	2,874	183	3,981	628		3,483
Salmon, tierces.....	71	192				
Salmon, barrels.....	1,041	362	54	20		30
Tallow, packages.....	518	998	479	316	434	
Wheat, bags.....	203,528	19,288				75
Wine, pipes and casks.....	157	24	151	432	141	431
Wine, one eighth casks.....		1	5	6	5	
Wine, barrels.....	3	18		19	20	66
Wine, kegs.....	16	30	30	15	26	75
Wine, cases.....	360	119	66	627	256	1,215
Wine, jars.....		22				100
Wool, bales.....	11,767	14,791	21,911	16,078	14,791	15,410

TO GREAT BRITAIN.

Articles.	1860.	1861.	1862.	1863.	1864.	1865.
Barley, bags.....	1,135	1,296	5,650			
Copper ore, sacks.....		21,557	155	3,873	22,840	142,581
Copper ore, tons.....		51				1,520
Copper ore, barrels.....				1,424		20
Flour, barrels.....	36,375	70,945	8,582	12,200		
Hides, number.....	284					
Lumber, feet.....	15,404					100,000
Oats, sacks.....			1,171			
Quicksilver, flasks.....		2,500	1,500	1,062		9,400
Salmon, tierces.....		170	155			
Salmon, barrels.....	62	620	167			
Tallow, casks.....		548	540	1,618		
Tallow, barrels.....			160	555		
Tallow, cases.....		376	295			
Wheat, bags.....	458,495	1,022,664	590,485	844,022		30,760
Wine, barrels.....		2	2			
Wine, cases.....		13				2
Wool, bales.....	315	1,193	78	319		

TO SANDWICH ISLANDS.

Articles.	1860.	1861.	1862.	1863.	1864.	1865.
Barley, bags.....	357	1,097	436	123	210	691
Beans, bags.....	64	214		140	41	149
Bran, bags.....		163	361	33		1,512
Bread, casks and barrels.....	42	211	5	4	22	1,310
Bread, cases.....	917	1,430	573	926	803	
Brooms, dozens.....				177	32	
Fish, tierces.....		35	536	45	100	156
Fish, barrels.....	1,997	384		726	670	303
Fish, cases.....	107	38	2	6	10	
Flour, barrels.....	1,558	2,337	1,932	4,530	3,487	2,362
Hay, bales.....	730	505	40	30	12	15
Lime, barrels.....	170	143	357	625	1,915	2,559
Lumber, feet.....	207,514	142,497	388,301	772,794	1,213,158	2,520,518
Lumber, pieces.....			138		350	806
Lumber—Shingles, M.....	1,565	2,200	2,210	2,028	3,365	4,711
Lumber—Shingles, bdl.....	400	500				4,760
Leather, packages.....	2	8	21	7	11	55
Oats, bags.....	1,553	3,420	1,633	1,364	588	1,540
Potatoes, bags.....	4,984	3,140	67	2,732	2,450	1,591
Wheat, bags.....		559	1,025		492	25

TO CHINA.

Articles.	1860.	1861.	1862.	1863.	1864.	1865.
Abalones, bags	3,497	4,900	1,422	777	3,596	1,273
Barley, bags	2,020	.....	500	100	100	1,110
Beans, bags	286	.....	32	754	1,390	1,173
Bones, packages .....	.....	872	2,691	.....	3,077	4,512
Bones, number .....	.....	.....	.....	333	.....	.....
Bread, barrels	592	248	320	3,603	.....	.....
Bread, cases	1,906	5,313	1,204	3,791	888	158
Bread, packages .....	.....	.....	116	.....	.....	.....
Fish, dried, packages	521	602	1,716	.....	827	2,155
Fish—Salmon, barrels	1,101	84	80	116	470	1
Flour, barrels	24,910	10,524	21,451	50,955	26,230	35,225
Hay, bales	1,434	21	188	779	350	310
Lumber, feet	1,321,565	863,982	2,659,190	2,709,733	3,272,595	1,072,786
Lumber, pieces	4,085	.....	7,417	.....	2,937	622
Lumber—Pickets, No. ....	.....	5,000	.....	.....	.....	1,237
Oats, bags	8,037	1,240	250	5,515	1,239	1,674
Potatoes, boxes and bags ..	24,692	3,333	3,572	9,476	390	2,747
Quicksilver, flasks	2,715	13,788	8,735	8,880	18,908	14,248
Wheat, bags	24,019	21,649	37,191	186,610	62,772	124,692
Wool, bales .....	.....	.....	80	.....	.....	.....

TO MEXICO.

Articles.	1860.	1861.	1862.	1863.	1864.	1865.
Barley, bags	124	571	69	320	1,085	8,299
Beans, bags	724	214	.....	81	2,252	1,918
Bread, cases and barrels ..	112	27	39	5	435	2
Bread, cases	2,234	1,933	1,255	1,478	664	2,461
Bread, bags .....	.....	.....	.....	254	.....	.....
Brooms, dozen .....	.....	259	157	187	257	260
Flour, barrels	6,122	10,932	2,271	7,498	7,672	9,064
Glue, packages .....	.....	4	.....	12	4	14
Hay, bales	155	488	36	85	972	1,912
Hay, tons .....	.....	.....	5	.....	.....	.....
Lumber, feet	629,951	399,345	343,965	1,152,380	1,223,486	17,814
Lumber, bundles and pcs. ..	568	197	651	1,835	171	197
Lumber—Shingle, M.	52	254	200	565	446	.....
Lumber—Shingles, bdls.	88	.....	.....	.....	.....	.....
Lumber—Laths, number .....	.....	400	.....	.....	.....	.....
Leather, packages	1	23	1	9	11	42
Maccaroni & vermic'i, bxs ..	1,869	2,766	804	1,915	3,341	597
Oats, bags	12	.....	21	11	534	2,756
Potatoes, bags	3,038	1,957	1,114	2,220	2,820	136
Quicksilver, flasks	3,886	12,061	14,778	11,590	7,687	24
Tallow, packages .....	.....	109	1	2	119	.....
Wheat, bags .....	.....	10	.....	1	632	3,672

TO AUSTRALIA.

Articles.	1860.	1861.	1862.	1863.	1864.	1865.
Barley, bags	2,361	41,528	360,225	16,107	.....	.....
Beans, bags	32	.....	.....	.....	26	.....
Bread, cases .....	.....	1,034	670	268	.....	.....
Bread, packages .....	.....	.....	108	.....	.....	.....
Brooms, dozens .....	.....	163	102	.....	.....	.....
Fish, cases .....	.....	.....	.....	.....	.....	.....
Fish, barrels	350	545	375	47	102	.....
Fish, cases .....	.....	10	.....	.....	275	390
Flour, barrels	19,081	55,437	7,842	20,585	16,744	11,263
Lumber, feet	28,419	41,585	465,021	372,397	634,150	997,321
Lumber, pieces .....	.....	.....	.....	.....	.....	.....
Oats, bags	63,790	156,262	4,242	73,706	21,568	3,488
Quicksilver, flasks	100	1,850	800	300	100	200
Wheat, bags	380,358	269,883	41,560	88,276	8,550	181,574

TO PERU.

Articles.	1860.	1861.	1862.	1863.	1864.	1865.
Barley, bags	15,166	37,077	4,476	.....	.....	86,811
Beans, bags	120	250	200	.....	100	.....
Bread, packages .....	.....	.....	50	.....	.....	.....
Brooms, dozens	65	.....	100	.....	.....	2,775
Flour, barrels	36,349	342,532	1,936,156	890,009	1,145,583	3,245,446
Lumber, pieces .....	.....	.....	6	.....	.....	10,470
Potatoes, bags	80	1,970	382	200	.....	.....
Quicksilver, flasks	750	2,804	3,439	3,376	4,300	5,500
Tallow, packages	179	6	113	199	65	.....
Wheat, bags	31,341	13,032	28,104	260	.....	14,500

TO OTHER COUNTRIES.

Comprising British Columbia, New Grenada, Chile, Panama, Hamburg, Society Islands, Manilla, Japan, France, Cape of Good Hope, Montevideo, Guam, Mauritius, Central America, and Russian Possessions.

Articles.	1860.	1861.	1862.	1863.	1864.	1865.
Barley, bags	99,243	92,814	39,034	27,303	54	2,958
Beans, bags	291	4,883	8,980	3,074	194	963
Bran, tons .....	.....	25	.....	.....	.....	2
Bran, bags	5,806	1,098	5,762	3,709	.....	.....
Buckwheat, bags .....	.....	36	75	.....	.....	.....
Bread, barrels	205	58	28	50	.....	151
Bread, cases	1,753	1,513	1,044	2,327	545	1,327
Bread, packages .....	.....	.....	289	96	.....	5
Brooms, dozens .....	.....	362	518	.....	4	16
Flour, barrels	33,577	21,480	59,170	57,634	10,241	13,282
Furs, packages .....	.....	.....	.....	.....	.....	.....
Hay, bales	7,318	3,002	5,524	6,103	395	367
Hide cuttings, packages .....	.....	10	.....	.....	.....	.....

Articles.	1860.	1861.	1862.	1863.	1864.	1865.
Horns, number.....		5,400				
Leather, packages.....	61	68	77	87	10	7
Lumber—Boards, feet....	1,740,575	1,531,505	2,897,752	940,899	2,625,942	644,408
Boards, bundles & pieces	1,426	3,542	704	366		8,227
Shingles, number.....	490,000	216,000	450,000		614,500	325,200
Shingles, bundles.....	411		400			
Pickets, number.....	2,000	5,000				5,750
Pickets, bundles.....		400				
Laths, number.....			1,000		150,000	25,000
Lime, barrels.....	220		30	310		1
Oats, bags.....	3,198	2,504	7,788	6,483	366	2,556
Potatoes, bags.....	6,351	4,935	4,514	6,222	3,772	4,970
Quicksilver, flasks.....	1,497	2,392	2,240	702	2,749	8
Salmon, barrels.....	236	73	235	37	135	10
Salmon, cases.....		17	6	60	11	5
Tallow, packages.....	1,484	327	423	251	3	
Wheat, bags.....	37,357	4,184	5,118	27,297	1,531	35,072
Wool, bales.....		3	546		2	

EXPORT TRADE FOR 1865.

The exports of merchandise and other products of this coast have been in excess of eighteen hundred and sixty-four, notwithstanding the large falling off in shipments of flour and grain to Europe. We have shipped more breadstuffs to China and Australia than in eighteen hundred and sixty-four.

The following table shows the destination and value of our exports of produce during the past three years:

Countries.	1863.	1864.	1865.
New York.....	\$2,737,435	\$3,399,143	\$4,329,420
Boston.....	1,505,690	1,532,021	1,663,733
New Bedford.....		235,000	277,250
Great Britain.....	1,697,822	955,858	1,175,658
Australia.....	487,685	579,746	546,808
British Columbia.....	1,746,801	1,510,639	1,257,029
Mexico.....	1,819,652	2,215,614	2,082,704
Peru.....	216,206	247,128	542,538
China.....	1,246,254	1,374,106	1,233,732
Hawaiian Islands.....	357,369	659,485	748,142
Japan.....	43,901	49,337	122,061
Other countries.....	920,584	513,678	575,322
Totals.....	\$12,877,399	\$13,271,752	\$14,554,406

The relative increase and decrease of our trade with different countries during the year eighteen hundred and sixty-five, as compared with eighteen hundred and sixty-four, is shown as follows:

Destination.	Increase.	Decrease.
New York, etc.....	\$1,104,248	
Great Britain.....	219,800	
Mexico.....		\$132,910
Peru.....	295,410	
Hawaiian Islands.....	88,657	
China.....		140,374
Australia and New Zealand.....		32,938
Victoria.....		253,610
Japan.....	72,724	
Other countries.....	61,644	
	\$1,842,483	\$559,832

Net increase this year, one million two hundred and eighty-two thousand six hundred and fifty-one dollars.

It will be seen that our export trade with Atlantic ports is steadily on the increase. The increase of our exports of copper ore will attract especial attention. We shipped in eighteen hundred and sixty-five, three hundred and two thousand seven hundred and ninety-four sacks of copper ore to New York and Boston; and to Swansea, one hundred and forty-two thousand five hundred and eighty-one sacks, and one thousand five hundred and twenty tons. While this indicates a rapid development of our copper mines, we would much prefer that the ore should be reduced in our own State, and only the metal shipped abroad. Time will accomplish this also.

It will be observed that the foregoing tables of California produce exported do not show all the shipments for eighteen hundred and sixty-four and eighteen hundred and sixty-five. For instance, in eighteen hundred and sixty-four, we shipped to New York and Boston, of manganese, two hundred and twenty-five tons; of plumbago, one hundred and forty-one packages; of lead and silver ores, one thousand two hundred and four sacks, and of silver ore alone, one hundred and thirty-eight sacks; and in the same year we shipped to England six thousand and twenty-six sacks of silver ore, and twenty-one thousand four hundred and thirty-six sacks of mixed copper and silver ores; while, in eighteen hundred and sixty-five, we shipped to New York and Boston two thousand eight hundred and forty-one sacks of silver ores, and four hundred and seventy-three sacks of various metals; and to England we shipped the same year one thousand two hundred and seventy-three sacks of gold ore, seven thousand three hundred and ninety-four sacks, thirty-three casks, and forty-five boxes of silver, besides six hundred and eighty-seven sacks, twenty-seven boxes, and nine tons of various metallic ores. There are many other articles which we have begun to export within the last two years, in small quantities, that are not enumerated in the above tables of details.

STATEMENT

Of the amount and destination of treasure exported from the Port of San Francisco for each of the last three years.

Destination.	1863.	1864.	1865.
New York.....	\$10,389,329 82	\$12,316,121 99	\$20,583,389 95
England	28,467,256 91	34,436,422 85	15,432,638 89
China.....	4,236,370 79	7,888,973 24	6,963,522 29
Japan.....	34,564 19	35,631 00	214,006 62
Manilla.....	66,200 00	150,135 73	156,505 23
Panama.....	2,503,296 17	378,794 54	1,224,844 71
Havana	32,302 75	8,000 00	.....
Hawaiian Islands.....	31,253 35	130,603 35	45,920 00
Society Islands.....	8,000 00	16,951 63	5,500 00
Mexico	155,518 60	175,245 34	152,457 00
Central America.....	77,827 46	45,321 59	90,273 16
Victoria, V. I.....	100,000 00	115,000 00	.....
France.....	.....	.....	389,170 62
Chile.....	.....	.....	50,000 00
Totals.....	\$46,071,920 04	\$56,707,201 26	\$45,308,228 47

The aggregate value of exports of all descriptions from the Port of San Francisco for the three past years was as follows:

	1863.	1864.	1865.
Treasure.....	\$46,071,920	\$56,707,201	\$45,308,228
Merchandise.....	12,877,390	13,271,752	14,355,399
Totals	\$58,949,319	\$69,978,953	\$59,663,627

MOVEMENTS OF TREASURE FOR THE LAST THREE YEARS—RECEIPTS AT SAN FRANCISCO FROM THE INTERIOR.

	1863.	1864.	1865.
Uncoined.....	\$43,913,375	\$47,769,984	\$48,706,261
Coined.....	6,383,974	5,743,399	4,961,922
Totals.....	\$50,297,349	\$53,513,383	\$53,668,183

Recapitulation—Interior receipts, imports, foreign, and exports, for the years 1863, 1864, and 1865.

	1863.	1864.	1865.
Interior receipts...	\$50,297,349	\$53,513,383	\$53,668,183
Imports, foreign...	2,156,612	1,715,024	1,799,390
Totals.....	\$52,453,961	\$55,228,407	\$55,467,573
Exports.....	46,071,920	55,707,201	45,308,228
Currency movem't	Inc...\$6,382,041	Dec.....\$476,794	Inc....\$10,159,345

COIN ABSORBED IN THE INTERIOR.

With regard to the amount of gold coin on this coast, it is difficult to ascertain with any degree of certainty. The following figures may serve to show, in some degree, the currency movement of the past three years, and perhaps give some idea of the amount of coin in circulation in the hands of the people:

	1863.	1864.	1865.
Coin remitted to the interior...	\$12,916,781	\$10,800,920	\$12,528,524
Coin received from the interior..	6,383,974	5,743,399	4,961,922
Bal. added to interior circulation	\$6,532,807	\$5,057,521	\$7,566,602

Total for three years, twenty million one hundred and fifty-six thousand nine hundred and thirty dollars.

It should be remarked here, that the above tables show only our exports by sea, while we have been sending large quantities of our domestic produce over the mountains to Nevada, and have no means of determining how great that quantity has been. The exports by sea will undoubtedly increase in the future, and perhaps those to the interior may, for a few years, but we cannot expect them to many years, as the agriculture of those States and Territories now dependent on us will soon supply sufficient for their own consumption.

PREMIUMS AWARDED IN 1865.

PREMIUMS FOR SPEED.

MONDAY, SEPTEMBER 18th, 1865.

FIRST TRIAL—*Running race*—two mile heats; free for all; purse—one thousand dollars.

Entries—Theodore Winters, of Solano County, entered b. c. "Norfolk," by "Lexington," dam "Novice," by imported "Glencoe," four years old. Weight, one hundred pounds.

E. M. Skaggs, of Sacramento, entered br. h. "Lodi," by imported "Yorkshire," dam "Topaz," by imported "Glencoe"—five years old. Weight, one hundred and ten pounds.

Henry Andel, of San Francisco, entered b. g. "Unknown," seven years old.

Judges—Col. E. McGarry, Nathan Coombs, and Henry Williamson.

Timers—E. W. Teackle, and E. H. Parker.

Result—"Norfolk"..... 1 1
 "Lodi"..... 2 2
 "Unknown" withdrawn by consent.

Time—First heat—3.37 2-5; second heat—3.38½.

SAME DAY.

SECOND TRIAL—*Running race*—mile heats; free for all three year olds.

Entries—Theodore Winters entered b. c. "Aleck Barnes," by "Belmont," dam "Evadna," by "Winnebago," three years old.

W. H. Winter, of Napa, entered b. c. "Huichica," by "Billy Cheatham," dam unknown.

James Merritt, of Napa, entered b. filly "Belle Moore," by "Belmont," dam by Tom Moore.

Result—"Aleck Barnes"..... 2 1 1
 "Huichica"..... 1 2 dr'n
 "Belle Moore"..... withdrawn

Time—First heat—1.50½; second heat—1.53½; third heat—not timed, Barnes galloping alone.

TUESDAY, SEPTEMBER 19th.

FIRST TRIAL—*Trotting race*—mile heats; three in five; in harness; free for all; purse—five hundred dollars.

Entries—J. L. Eoff entered ch. g. "Honest Anee."
 Wm. Hendrickson entered b. g. "Bally Lewis."
 J. B. Galler entered b. m. "May Queen."

Result—"Honest Anee"..... 1 1 1
 "May Queen"..... 2 2 2
 "Bally Lewis"..... withdrawn

Time—First heat—2.29 3-5; second heat—2.34 1-5; third heat—2.31.

SAME DAY.

SECOND TRIAL—*Trotting race*—mile heats; three in five; in harness; free for all horses that have never shown better time than 2.50; purse—two hundred dollars.

Entries—J. B. Galler entered ch. g. "Pat McKeon."
 John T. Jarvis entered b. h. "Tom January."
 L. G. Butler entered cr. g. "General Evans."

Result—"General Evans"..... 1 0 1
 "Tom January"..... 2 0 dis
 "Pat McKeon"..... withdrawn

Time—First heat—2.51½; second heat—dead heat; third heat—2.51½.

WEDNESDAY, SEPTEMBER 20th.

FIRST TRIAL—*Pacing race*—mile heats; in harness; free for all; purse—two hundred and fifty dollars.

Entries—J. B. Hinckle entered s. m. "Sweetbriar."
 C. H. Shear entered b. m. "Topsy."
 E. M. Skaggs entered b. g. "Dick Gough."
 J. B. Galler entered gr. m. "Queen of Pacific."

Result—"Sweetbriar"..... 1 1
 "Dick Gough"..... 3 2
 "Queen of Pacific"..... 2 3
 "Topsy"..... dist'd

SAME DAY.

SECOND TRIAL—*Trotting race*—mile heats; three in five; free for all except "Honest Ance," "Patchen," Gentleman George," and "May Queen;" purse—four hundred dollars.

Entries—S. Crandall entered ch. h. "General McClellan."
C. H. Shear entered gr. s. "Captain Hanford."
R. Morrow entered b. s. "Latham."
C. M. Chase entered b. g. "Bally Lewis."

Result—"Capt. Hanford"..... 1 1 1
"Bally Lewis"..... 2 2 2
"General McClellan"..... 3 3 3
"Latham"..... distanced

Time—First heat—2.37½; second heat—2.34½; third heat—2.37½.

SAME DAY.

THIRD TRIAL—*Trotting race*—Mile heats, free for all three year olds; purse—two hundred dollars.

Result—The judges decided there was fraud in entering for, and driving in this race, and therefore declared all bets off, and retained the purse for the society.

THURSDAY, SEPTEMBER 21st.

FIRST TRIAL—*Trotting race*—Mile heats; three in five; free to all stallions; purse—three hundred dollars.

Entries—C. H. Shear entered gr. s. "Captain Hanford."
J. L. Eoff entered br. s. "Latham."
P. Farrell entered b. s. "Duane."

Result—"Captain Hanford"..... 1 0 0 1
"Latham"..... 2 0 1 dis
"Duane"..... withdrawn

Time—First heat—2.34; second heat—2.34; third heat—2.34; fourth heat—2.33½.

SAME DAY.

SECOND TRIAL—*Trotting race*—Eight miles out; purse—five hundred dollars.

Entries—C. H. Hoffman entered ch. g. "Wm. H. Seward."
J. L. Eoff entered ch. g. "Wm. H. Seward, Jr."
Charles McPeake entered s. g. "Frank Malone."

Result—"Wm. H. Seward"..... 1
"Wm. H. Seward, Jr."..... 2
"Frank Malone"..... drawn

Time—23.43.

SAME DAY.

THIRD TRIAL—*Running race*—Single dash of a mile; free for all two year olds; purse—one hundred and fifty dollars; entrance, ten per cent to be added.

Entries—James Merritt entered b. c. "Hermitage," by "Volcian."
Nathan Coombs entered ch. c. "Rapidan," by "Cheatham."
W. H. Winter entered b. c. "Belvidere."

Result—"Rapidan"..... 1
"Hermitage"..... 2
"Belvidere"..... 3

Time—1.53½.

FRIDAY, SEPTEMBER 22d.

FIRST TRIAL—*Trotting race*—Two mile heats; free for all; purse—four hundred dollars.

Entries—J. B. Galler entered s. g. "Sorrel Charley."
P. Farrell entered b. h. "Bob Ridley."
J. L. Eoff entered s. g. "Frank Malone."

Result—"Bob Ridley"..... 2 1
"Frank Malone"..... 1 dis
"Sorrel Charley"..... drawn

Time—5.39; 5.48½.

SAME DAY.

SECOND TRIAL—*Trotting race*—Mile heats; three in five; free for all double teams; purse—five hundred dollars.

Entries—C. H. Shear entered "Alicia" and mate.
J. L. Eoff entered "Ance" and "Latham."
J. B. Galler entered "Pat" and "Bob Ridley."
P. Farrell entered "Duane" and "Hector."

Result—"Alicia Mandeville" and mate were ruled out for the reason the name of the mate did not appear in the entry. "Pat" and "Bob Ridley" were withdrawn, and "Hector" and "Duane" also were withdrawn, after they appeared on the track. "Ance" and "Latham" went around the track in 2.38½, and were awarded half the purse, under the rules.

SAME DAY.

THIRD TRIAL—Running race—Mile, and repeat; free for all; purse—two hundred and fifty dollars; ten per cent entrance to go to the second horse in the race.

Entries—W. H. Winter entered b. c. "Huichica."
Theodore Winter entered bl. c. "Aleck Barnes."
A. M. Stevenson entered s. m. "Flora."

Result—"Flora"..... 1 1
"Aleck Barnes"..... 2 2
"Huichica"..... dist

Time—1.49½; 1.50½.

SATURDAY, SEPTEMBER 23d.

FIRST TRIAL—Running race—Three mile heats; two in three; free for all, if contested for by "Norfolk" and "Lodi;" purse—two thousand dollars.

Entries—Theodore Winters entered b. c. "Norfolk," by "Lexington," dam "Novice," by imported "Glencoe," four years old.
C. H. Bryan entered br. h. "Lodi," by imp. "Yorkshire," dam "Topaz," by imported "Glencoe," five years old.

Result—"Norfolk"..... 1 1
"Lodi"..... 2 2

Time—First heat—first mile, 1.48, second mile, 1.51½, third mile, 1.47½—total, 5.27½; second heat—first mile, 1.47½, second mile, 1.50½, third mile, 1.51½—total, 5.29½.

SAME DAY.

SECOND TRIAL—Running race—Mile heats; three in five; free for all, except "Lodi" and "Norfolk;" purse—five hundred dollars.

Entries—A. M. Stevenson entered ch. m. "Maria Gardner," by "Cosmo," dam by "Grey Eagle," three years old.
John Hall entered ch. m. "Peggy Ringold," by "Ringold," "Little Peggy," by "Cripple," five years old.
J. B. James entered b. h. "Pilot," by "Reveille," dam, the dam of "Troubador," four years old.

Result—"Peggy Ringold"..... 1 2 3 1 1
"Pilot"..... 2 3 1 3 2
"Maria Gardner"..... 3 1 2 2 3

Time—1.48½; 1.47; 1.48½; 1.49½; 1.50½.

PREMIUMS ON STOCK.

THOROUGHBRED HORSES.

Exhibitor.	Residence.	Animal.	Premium.
John Hall.....	Alameda.....	Best stallion four years old and over—b. h. "Woodburn," four years.....	\$75
N. Coombs.....	Napa.....	Best stallion two years old—ch. c. "Glenwild," two years.....	\$50
A. M. & G. B. Stevenson.....	Solano.....	Best mare four years old and over—s. m. "Virginia," four years.....	\$50
John Hall.....	Alameda.....	Best mare three years old—b. m. "Viola," three years.....	\$40
A. Musick.....	Sacramento.....	Best mare one year old—s. m. "Ellen Moore".....	\$30
J. G. McCracken.....	Sacramento.....	Best stallion, other than thoroughbred, with ten colts—b. h. "David Hill," and eleven colts.....	\$100

HORSES OF ALL WORK.

Charles Kidder.....	Sacramento.....	Best four years old and over—b. h. "Young Rattler," six years.....	\$50
J. B. McDonald.....	Yuba.....	Best stallion three years old—"Reese River," four years.....	\$40
Edward Roberts.....	Yolo.....	Best stallion two years old—"Billy Wallace".....	\$30
J. G. McCracken.....	Sacramento.....	Best one year old—b. c. "David Hill, Jr.".....	\$20
Edward Roberts.....	Yolo.....	Best mare three years old—ch. m. "Sally Miller".....	\$30
E. Pierce.....	Sacramento.....	Best mare two years old—b. m. "Nelly Morgan".....	\$20
J. G. McCracken.....	Sacramento.....	Best mare one year old—b. m. "Jane".....	\$15
J. L. Ganby.....	Yolo.....	Best mare four years old—br. m. seven years.....	\$40
Edward Roberts.....	Yolo.....	Best dam, other than thoroughbred, with not less than three colts—b. m. "Amanda Wallace," and three colts.....	\$75

GRADE STOCK.

Samuel Barnes.....	Yolo.....	Best stallion four years old—ch. h. "Prior".....	\$50
Vincent Barnes.....	Yolo.....	Best stallion three years old—s. b. "Sea Breeze".....	\$40
Nathan Coombs.....	Napa.....	Best stallion two years old—ch. h. "Rapidan".....	\$30
D. M. Boyd.....	El Dorado.....	Best stallion two years old—b. c. "General Grant".....	\$20
Diggs & Sutton.....	Yolo.....	Best mare three years old—g. m.....	\$30
R. H. Murphy.....	Sacramento.....	Best mare two years old—b. m.....	\$20

DRAFT HORSES.

Exhibitor.	Residence.	Animal.	Premium.
D. Hobbs	Sacramento....	Best stallion four years old and over —b. h. "Farmer's Glory".....	\$40
D. H. Lowry	Sacramento....	Best mare four years old—b. m. "Flora".....	\$40
D. H. Lowry	Sacramento....	Best mare two years old—s. m. "Golden Gate".....	\$20

ROADSTERS.

E. M. Skaggs.....	Sacramento....	Best stallion four years old and over —b. h. "Young Rattler," seven years old.....	\$50
W. G. Flower.....	Sacramento....	Best stallion three years old—b. h. "Billy Black".....	\$40
J. A. Lancaster.....	Nevada.....	Best stallion two years old—br. h. "Leroy".....	\$30
G. Jacobs	Nevada.....	Best gelding four years old and over —b. g. "Humboldt," eight years old.....	\$40
D. H. Shear.....	San Francisco	Best mare four years old and over— r. m. "Alicia Mandeville," five years.....	\$40
D. K. McMullin.....	Solano.....	Best mare three years old—b. m. "Mellie".....	\$30

CARRIAGE HORSES.

John Neubauer	Sacramento ..	Best matched span carriage horses, owned and used as such by one person—pair matched carriage horses, black, five and six years old.....	\$50
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SADDLE HORSES.

J. L. Gaudy.....	Yolo	Best saddle horse—b. g. "Dixie," four years old	\$20
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COLTS.

George Ingalls.....	Sacramento....	Best yearling horse colt—b. c. "Fred. Low".....	\$40
Short & Bryte.....	Yolo	Best yearling mare colt—"Mary Ann".....	\$30
A. S. Niles.....	Placer.....	Best sucking horse colt—s. c. "Scissors".....	\$30
G. McCracken.....	Sacramento....	Best sucking mare colt—b. m. "Jennie".....	\$20

SWEEPSTAKES.

Exhibitor.	Residence.	Animal.	Premium.
Nathan Coombs.....	Napa	Best stallion of any age—ch. c. "Glenwild," two years.....	\$150
Andy Stevenson.....	Solano.....	Best mare of any age—ch. m. "Vir- ginia," four years.....	\$100

JACKS AND MULES.

R. C. Briggs.....	Yolo	Best jack—"Black Samson," seven years old.....	\$50
Thomas Edwards....	Sacramento....	Best jennet—"Lady Franklin," two years	\$40
M. A. Farmer.....	Yuba	Best pair mules—"Lion" and "Ti- ger," six years.....	\$40
W. A. Lattin.....	Solano.....	Best single mule four years old—b. m. mule.....	\$30

DURHAM CATTLE.

George M. Howard....	San Mateo.....	Best four year old bull—"Young Harold IV," four years.....	\$50
J. B. Redmonds.....	.....	"White Prince".....	Special.
John Searls.....	San Francisco.	Best four year old cow—"Fanny," four years.....	\$40

DEVONS.

Seneca Daniels.....	Sonoma.....	Best bull four years old and over— "Pacific".....	\$50
Seneca Daniels.....	Sonoma.....	Best bull three years old—"Owasco".....	\$30
Seneca Daniels.....	Sonoma.....	Best bull two years old—"Prince".....	\$20
Seneca Daniels.....	Sonoma.....	Best bull one year old—"Pryor".....	\$15
J. R. Rose.....	Sonoma.....	Best bull calf—"Bloomfield".....	\$10
J. R. Rose.....	Sonoma.....	Best cow four years old and over— "Lassie".....	\$40
J. R. Rose.....	Sonoma.....	Best cow three years old—"Lucy".....	\$25
Seneca Daniels.....	Sonoma.....	Best cow two years old—"Beauty".....	\$20
Seneca Daniels.....	Sonoma.....	Best cow one year old—"Fanny".....	\$15
Seneca Daniels.....	Sonoma.....	Best heifer calf—"Nell".....	\$10

AYRSHIRES.

Seneca Daniels.....	Sonoma.....	Best bull four years old and over— "Sir Walter II," five years.....	\$50
Seneca Daniels.....	Sonoma.....	Best cow four years old and over— "Ruth".....	\$40

GRADE CATTLE.

Exhibitor.	Residence.	Animal.	Premium.
Seneca Daniels.....	Sonoma.....	Best bull four years old—white bull.....	\$40
M. Sprague.....	Sacramento.....	Best bull two years old—white bull.....	\$20
Shorte & Bryte.....	Yolo.....	Best cow four years old and over— red cow "Rosa," five years.....	\$30
Short & Bryte.....	Yolo.....	Best cow three years old—red cow "Dixie".....	\$20
A. P. Smith.....	Sacramento.....	Best cow two years old—roan cow.....	\$15

SWEEPSTAKES.

John Searles.....	San Francisco	Best cow "Fanny".....	\$50
J. B. Redmonds.....	.....	Best bull—"White Prince".....	\$75
.....	.....	"Young Harold IV".....	Special

SHEEP.

J. D. Patterson.....	Alameda.....	Best Spanish Merino ram, two years old.....	First—\$15
Ellen McConnell.....	Sacramento.....	Best Spanish Merino ram, two years old.....	Second—\$8
Thomas Cotter.....	Sacramento.....	Best Spanish Merino ram under two years.....	First—\$10
D. Satterfield.....	Sacramento.....	Best Spanish Merino ram under two years.....	Second—\$5
Thomas McConnell.....	Sacramento.....	Best three ewes two years and over.....	First—\$15
Ellen McConnell.....	Sacramento.....	Best three ewes two years and over.....	Second—\$8
D. Satterfield.....	Sacramento.....	Best three ewes under two years.....	First—\$10
Ellen McConnell.....	Sacramento.....	Best three ewes under two years.....	Second—\$5
D. Satterfield.....	Sacramento.....	Best five ewe lambs.....	First—\$10

FRENCH MERINO.

J. D. Patterson.....	Alameda.....	Best ram two years old and over— "Emperor".....	First—\$15
J. D. Patterson.....	Alameda.....	Best ram two years old and over— "Napoleon".....	Second—\$8

CROSS BREEDS.

Ellen McConnell.....	Sacramento.....	Best ram under two years.....	First—\$10
Thomas Cotter.....	Sacramento.....	Best ram under two years.....	Second—\$5
Thomas Cotter.....	Sacramento.....	Best ram lambs.....	First—\$10
Francis Graham.....	Sacramento.....	Best ram lambs.....	Second—\$5
Thomas Cotter.....	Sacramento.....	Best three ewes two years and over.....	First—\$15
Thomas Cotter.....	Sacramento.....	Best three ewes under two years.....	First—\$10
Thomas Cotter.....	Sacramento.....	Best five ewe lambs.....	First—\$10
Francis Graham.....	Sacramento.....	Best five ewe lambs.....	Second—\$5

CROSS OF FRENCH MERINO AND SPANISH MERINO.

Exhibitor.	Residence.	Animal.	Premium.
J. E. Perkins.....	San Francisco.	For lot of cross thoroughbreds.....	Special

CASHMERE GOATS.

Thomas Brock.....	.....	.....	First—spec'l—silver cup
Wm. Landrum.....	.....	.....	Sec'd—spec'l—silver cup

SWINE.

A. P. Smith.....	Sacramento ..	Best boar two years and over.....	First—\$10
A. P. Smith.....	Sacramento ..	Best boar six months and less than one year.....	First—\$8
Short & Bryte.....	Yolo.....	Best sow six months and less than one year.....	First—\$8
Thomas Edwards....	Sacramento ..	Best boar two years and over	\$10

AGRICULTURAL IMPLEMENTS.

Exhibitor.	Residence.	Article.	Premium.
P. H. Murphy.....	Sacramento ..	Best reaper and mower, (Badger State,).....	First—\$5
H. Cronkite.....	Sacramento ..	Best caststeel plough	First—\$5
H. Cronkite.....	Sacramento ..	Best cultivator.....	First—\$5
Baker & Hamilton....	Sacramento ..	Smith's caststeel plough	Special—diploma
Treadwell & Co.....	Sacramento ..	Best gang plough, (California inven- tion,).....	First—\$10
P. M. Behimian.....	Iowa Hill.....	Model of cylinder plough.....	Honorable mention
D. & H. A. Winter....	San Francisco.	Great Western Seed Planter.....	First—diploma
Rippon & Hill.....	Sacramento ..	Ingall's Seed Sower	Special—diploma
D. Lamb.....	Bloomfield....	William Workman's Sower and Cul- tivator.....	Special—diploma
W. Wadsworth.....	Sacramento ..	Tiller.....	Honorable mention
Leonard Low.....	Sacramento ..	Best grain separator.....	First—diploma
S. Stevens.....	Sacramento ..	Model hay press.....	Honorable mention

STEAM ENGINES AND OTHER MACHINERY.

E. Gruhler.....	Sacramento.....	Small steam engine.....	Special—diploma
F. F. Smith.....	Marysville.....	Steam engine—very small.....	Special—diploma
Baker & Hamilton....	Sacramento.....	Imported steam engine.....	Honorable mention
T. Hansbrow.....	Sacramento.....	Best engine pump.....	First—\$5
T. Hansbrow.....	Sacramento.....	Best mining pump.....	First—\$5
T. Hansbrow.....	Sacramento.....	Best domestic pump.....	First—\$3
W. H. Thomas.....	Sacramento.....	Best self-priming pump.....	First—diploma
William Agate.....	Sacramento.....	Perry's block pavement.....	Special—diploma
E. W. Walton.....	Drytown.....	Best wine and cider press.....	First—\$10
Baker & Hamilton....	Sacramento.....	Buckeye cider mill.....	Special—diploma
V. Squarza.....	San Francisco.	Faucet and indicator.....	First—diploma
A. A. Fradenburg....	Nevada.....	Rat trap.....	Special—diploma
A. Badlam.....	San Francisco.	Rat trap.....	Honorable mention

Exhibitor.	Residence.	Article.	Premium.
Casey & Kelley.....	Sacramento....	Improved tyer for soda bottles.....	.....Special—diploma
W. R. Frink.....	San Francisco.	One machine for making soda water.	.....Special—diploma
B. K. Myers.....	San Francisco.	Water wheels.....	.....First—diploma
B. K. Myers.....	San Francisco.	Lever jacks.....	.....Special notice
Martin Wilcox.....	Sacramento....	Water lifter.....	.....Special—diploma
G. H. Mixer.....	Sacramento....	Patent couplings.....	.....Special—diploma
V. S. W. Parkhurst.	San Francisco.	Safe and door locks.....	.....Special—diploma
J. L. Merrill.....	Sacramento....	Patent roofing.....	.....First—diploma
W. & J. Garrett.....	San Francisco.	One bell—home made.....	.....Special—diploma
Wheeler & Randall..	San Francisco.	Best quartz crusher.....	.....First—\$10
Wheeler & Randall..	San Francisco.	Best grinding pan.....	.....First—diploma
R. E. Washburn.....	San Francisco.	Sluice box.....	.....Special—diploma
H. L. Hopkins.....	San Francisco.	Best amalgamator.....	.....First—\$10
H. M. Stowe.....	San Francisco.	Best chamber drill.....	.....First—\$5
H. M. Stowe.....	San Francisco.	Expanding drills for boring oil wells.	.....Special, recommended

HAND TOOLS, ETC.

Richard Ireland.....	Sacramento....	Best brooms.....	.....First—\$3
Samuel Cole.....	Stockton.....	Best cheese press.....	.....First—\$3
Colonel Warren.....	San Francisco.	One churn.....	.....Honorable mention
R. D. Gard.....	Marysville....	Ward's patent churn.....	.....First—diploma
John M. Horner.....	San José.....	Washing machines.....	.....First—\$5
F. B. Lamb.....	San Francisco.	Washing machines.....	.....Second—diploma
Samuel Brannan.....	San Francisco.	Sheep shearing machine.....	.....Special
Samuel Cole.....	Stockton.....	D. C. Young's curd cutter.....	.....Special—\$3
Baker & Hamilton.....	Sacramento....	Spinning wheel.....	.....Special notice
T. Scofield.....	Sacramento....	Bread slicer.....	.....Honorable mention
A. E. White.....	San Francisco.	Boot blacking machine.....	Special merit'n—diploma

CARRIAGES.

J. W. Reeves.....	Sacramento....	One hearse.....	First—special—diploma
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DOMESTIC MANUFACTURES.

Pioneer Woollen Factory.....	San Francisco.	Pair woollen blankets.....First—diploma
Pioneer Woollen Factory.....	San Francisco.	Flannel, (ten yards and over).....	.....First—diploma
Pioneer Woollen Factory.....	San Francisco.	Ten yards of woollen cloth.....	.....First—diploma
Pioneer Woollen Factory.....	San Francisco.	Exhibit of woollen manufactures.....	.....Special—diploma
L. Prevost.....	San José.....	Exhibit of silk cocoons, silkworm eggs, and reeled silk.....	.....Special—\$50
S. P. Taylor.....	San Francisco.	Newspaper, wrapping paper, etc., a valuable exhibition.....	.....First—diploma
Hostetter, Smith, & Dean.....	San Francisco.	Glassware.....	.....First—diploma
J. Mallon & Co.....	San Francisco.	Cut and ground glass.....	.....Special—diploma
Brown & Andrews..	El Dorado....	Carriage and coach lamps.....	.....Special—diploma
J. L. Polhemus.....	Sacramento....	Distilled water, and sealing wax.....	.....Special—diploma
William Sharp.....	Sacramento....	Carpets, etc.....	.....Special—diploma
J. & C. Schreiber..	San Francisco.	Spring mattresses.....	.....First
Joseph Hopley.....	Sacramento....	Best assortment of cabinetwork.....	.....First—\$3
Joseph Hopley.....	Sacramento....	Best lot enamelled chairs.....	.....First—\$3
Joseph Hopley.....	Sacramento....	Best rosewood chairs.....	.....First—\$3
Joseph Hopley.....	Sacramento....	Best black walnut chairs.....	.....First—\$3

Exhibitor.	Residence.	Article.	Premium.
Goodwin & Co.....	San Francisco.	Turkish chairs.....	.....Honorable mention
Miss S. E. Avery....	Sacramento....	Reception chair.....	.....Honorable mention
Oehner & Lanuser..	Sacramento....	Wine cask.....	.....Special—diploma
R. Ireland.....	Sacramento....	Matches.....	.....Special—diploma
T. Bradt.....	Sacramento....	Pottery.....	.....Special—diploma
N. Clark.....	Sacramento....	Beehives.....	.....Special—diploma
George C. Heisch...	Sacramento....	Coffee and spices.....	.....Special—diploma
I. C. Mayer & Son...	San Francisco.	Best exhibit of furs.....	.....Silver goblet
Poirier & Lansing..	Sacramento....	Best exhibit of hats and caps.....	.....First—diploma
J. C. Meussdorffer & Co.....	Sacramento....	Exhibit of hats and caps.....	.....Special—diploma
S. J. Nathan.....	Sacramento....	Best exhibit of men's clothing.....	.....\$3

CUTLERY, SURGICAL INSTRUMENTS, Etc.

Will & Finck.....	San Francisco.	Best exhibit of cutlery and silver ware.....	.....Special—silver cup
Will & Finck.....	San Francisco.	Best exhibit of table cutlery.....	.....Special—diploma
Will & Finck.....	San Francisco.	Best surgical instruments.....	.....Special—diploma
R.H. McDonald & Co	Sacramento....	Imported dental instruments.....	.....Honorable mention

HARNESSES, SADDLES, Etc.

Mrs. C. A. Bartlett..	Oakland.....	Best ladies' saddles.....	.....First—\$3
A. T. Nelson.....	Sacramento....	Best gentlemen's saddle.....	.....First—\$3
S. Roth.....	Sacramento....	Best buggy harness (single).....	.....First—\$3
S. Roth.....	Sacramento....	Best four-horse stage harness.....	.....First—\$6
S. Roth.....	Sacramento....	Best plough harness.....	.....First—\$3
Koenig & Brothers..	San Francisco.	Best case boots and shoes.....	.....First—diploma
Thomas Armstrong..	Sacramento....	Horse collars.....	.....Special—diploma
A. T. Nelson.....	Sacramento....	Eastern made harness and saddle...	.....Honorable mention

NATURAL HISTORY.

Thomas Peers.....	Placerville....	Seven cases of insects.....	.....Special
Dr. H. W. Harkness	Sacramento....	One case of insects.....	.....Special—diploma
J. Q. A. Warren.....	.....	Exhibit of seeds, etc., from Sand- wich Islands.....	.....Special—silver cup

MISCELLANEOUS ARTICLES.

R. C. Terry & Co...	Sacramento....	Best exhibit of cooking stoves.....	.....First—diploma
Bullard & Battles...	San Francisco	Best petroleum stove.....	.....Honorable mention
J. L. Merrill.....	Sacramento....	Kerosene stoves.....	.....Special—diploma
Justin Gates & Bros	Sacramento....	Exhibit of perfumery and druggists' material.....	.....Special—diploma
Mrs. Blake.....	Yolo.....	Knitted socks.....	.....Special—\$3
Mrs. E. McConnell..	Sacramento....	Best sample of wool.....	.....First—diploma
Thomas Cotter.....	Sacramento....	Sample of wool.....	.....Second
J. F. Fugazi.....	San Francisco	Hair dye, hair restorative, etc.....	.....Special—silver cup
J. F. Fugazi.....	San Francisco	Cologne water.....	.....Special
Mrs. J. H. Carroll..	Sacramento....	Pickles (preserved).....	.....Special—napkin ring
Horn & Bergman...	Sacramento....	Pickles, etc.....	.....First—\$3

Exhibitor.	Residence.	Article.	Premium.
E. Lundquist.....	Sacramento....	Knights Templar goods.....	Special—diploma
Mrs. M. S. Reed.....	San Francisco	Gents' shoulder braces, support's, etc	Special—diploma
Mrs. C. M. Chapman	San Francisco	Hair dye, etc.....	Special—diploma
R. M. Edwards & Co.	Sacramento....	Stationery.....	Special—diploma
Adolphus Dreyfoss..	San Francisco	Ivory chesamen.....	Special—diploma
Dr. H. W. Harkness	Sacramento....	Silver ore.....	Special—diploma
J. Greenhood.....	Sacramento....	Mount Diablo coal.....	Special—diploma
J. J. Dennis.....	Humboldt.....	Petroleum oil.....	Special—diploma

BREAD, Etc.

Eagle Bakery.....	Sacramento....	Best crackers.....	First—diploma
Miss K. L. Robinson	.....	Best homemade bread.....	First—\$3

BUTTER, CHEESE, Etc.

Samuel Cole.....	Stockton.....	Best cheese.....	First—\$15
Mrs. E. F. Aiken....	Sacramento....	Best butter made in August.....	First—\$5
Mrs. Mary Jennings	Yolo.....	Best five pounds of butter made in each of April, May, June, and July.....	\$20

SEWING MACHINES.

Samuel Hill.....	San Francisco	Florence sewing machine.....	First—Extra set diplomas
Wm. Sharp.....	Sacramento....	Howe's sewing machine.....	Honorable mention
Samuel Jelly.....	Sacramento....	Grover & Baker sewing machine....	Special—diploma

SEWING MACHINE WORK.

Samuel Jelly.....	Sacramento....	Grover & Baker.....	First
Samuel Hill.....	San Francisco	Florence.....	Special

SCULPTURE.

P. Mezzara.....	San Francisco	Best plaster bust.....	First—diploma
Aitken & Luce.....	Sacramento....	Exhibit of best marble.....	First—\$10
Aitken & Luce.....	Sacramento....	Marble mantels.....	First—cup, \$15
Aitken & Luce.....	Sacramento....	Marble monument.....	First—goblet, \$20
Aitken & Luce.....	Sacramento....	Marble statuette.....	First

LADIES' DEPARTMENT.

Exhibitor.	Residence.	Article.	Premium.
Mrs. Horace Adams.	Sacramento....	Seaweed and phantom boquet.....	First—napkin ring
Mrs. B. F. Hastings..	Sacramento....	Wax flowers.....	First—napkin ring
Mrs. F. F. Low.....	Sacramento....	Afghan robes.....	Second
Mrs. J. H. Carroll....	Sacramento....	Seaweed.....	Honorable mention
Mrs. P. Carolan.....	Sacramento....	Seaweed.....	Honorable mention
Miss C. H. Swift.....	Sacramento....	Best white bedquilt.....	First—\$3
Mrs. R. M. Neff.....	Sacramento....	One bedquilt.....	Honorable mention
Mrs. P. E. Finchley..	Sacramento....	Shellwork.....	Napkin ring
Miss Hattie Grinnel.	Sacramento....	Worsted work.....	Honorable mention
Mrs. Juliana Bayer.	Sacramento....	Knitting.....	First—\$3
Mrs. Juliana Bayer.	Sacramento....	Embroidery and beadwork.....	Special—napkin ring
Mrs. N. L. Drew.....	Sacramento....	Wax fruit.....	First—\$3
Mrs. J. W. Richmond.	Sacramento....	Patchwork.....	Honorable mention
Miss Addie Culley..	Sacramento....	Hair wreath.....	Honorable mention
Miss Louisa Myers..	Sacramento....	Worsted embroidery.....	First—\$3
Mrs. C. Cook.....	San Francisco.	Hair jewelry.....	First—silver cup
Miss Nettie Reynolds	Solano.....	Hair harp.....	Special—fruit knife
Miss H. J. Sims.....	Sacramento....	Horsehair hat.....	Special—fruit knife
Miss Ada L. Sanders	Sacramento....	Wax flower.....	Honorable mention
Mrs. L. F. Reed.....	Sacramento....	Worsted embroidery.....	Honorable mention
Mrs. G. W. Lull.....	Sacramento....	Seedwork.....	First—\$3
Mrs. W. J. Bryan....	Sacramento....	Hairwork.....	Second—\$2
Miss Kate Burns....	Sacramento....	Worsted embroidery.....	Special—napkin ring
Mrs. William Yule..	Sacramento....	Bead and silk slippers.....	Honorable mention
Miss Rosa Newcomb	Sacramento....	Opera cloak, (crochet).....	Honorable mention
Mrs. S. G. Foster....	Sacramento....	Bonnets.....	First—diploma
Mrs. W. Windmiller	Folsom.....	Needlework.....	First—\$3
Mrs. L. F. Reed.....	Sacramento....	Seaweed.....	Honorable mention
Miss Hubbard.....	Sacramento....	Phantom cross.....	Special—napkin ring
Emma Kohler.....	Sacramento....	Cushions, tidies, etc.....	Honorable mention
Miss Kate Pryor....	Sacramento....	Embroidered needlework.....	Honorable mention
Miss Sue M. Hurd....	Sacramento....	Chenille work.....	First—\$3
Mrs. P. Finchly....	Sacramento....	Painted sofa cushion.....	First—silver cup
Mrs. P. Finchly....	Sacramento....	Ornamental leather work.....	First
Miss M. E. Drew....	Sacramento....	Crochet work.....	First—\$3
Mrs. J. W. Richmond.	Sacramento....	Sofa pillow and tidy.....	Honorable mention
Miss Edith Davis...	Sacramento....	Sofa pillow and tidy.....	Honorable mention
Miss J. A. Herndon	Sacramento....	Sofa pillow.....	Napkin ring
Miss Nettie Reynolds	Solano.....	Crochet work.....	Honorable mention
Mrs. Elkus.....	Sacramento....	Suit child's clothing.....	Honorable mention
Miss S. E. Avery....	Sacramento....	Knitting.....	Honorable mention
Mrs. E. M. Carley....	Sacramento....	Opera cloak, dress, and sack.....	Honorable mention
Dolly Brown.....	Sacramento....	Crochet work.....	Second—\$2
Mrs. B. R. Cutter....	Sacramento....	Afghan robe.....	First—diploma
Miss Lucy A. Fox....	Sacramento....	Worsted work.....	Second—\$2
Mrs. L. Washburn....	Sacramento....	Embroidery.....	Special—napkin ring

PAINTING, ETC.

Mrs. G. W. Chesley.	Sacramento....	Best oil painting, figure, (by a lady)	\$3
Mrs. G. W. Chesley.	Sacramento....	Best oil painting, landscape, (by a lady)	\$3
Mrs. C. A. Tuttle....	Sacramento....	Second best oil painting, landscape, (by a lady)	\$2
Mrs. C. A. Tuttle....	Sacramento....	Best water color painting (by a lady)	\$3
G. H. Goddard.....	Sacramento....	Best original water color (by a gentleman).....	\$3
Miss M. E. McKee..	Sacramento....	Best crayon painting (by a lady)....	\$3
Miss Susie McKee..	Sacramento....	Best flower painting in water colors.	
Colonel Warren.....	San Francisco.	One case of California productions, being the first samples of each exhibited at a fair in California....	Special

Exhibitor.	Residence.	Article.	Premium.
Colonel Warren.....	San Francisco.	Newspaper printing — <i>California Farmer</i>.....	.....Special—silver goblet.
Colonel Warren.....	San Francisco.	Best exhibit of flour, being a sack which obtained the first premium at our first State Fair, 1853.....	.....Special
Colonel Warren.....	San Francisco.	A cabinet of coins and minerals.....	.....Special
A. M. Esterle.....	Sacramento.....	Best collection of photographs.....	.....Diploma
J. A. Todd.....	Sacramento.....	Retouched photographs.....	.....Special—diploma
J. M. Byron.....	Sacramento.....	Best collection of ambrotypes.....	.....\$3
Dewey & Co.....	San Francisco.	Best specimen of printing.....	.....\$3
Master S. F. Butler.	San Francisco.	Best specimen of ornamental penmanship.....	.....\$3
Antonio Peris.....	Sacramento.....	Shellwork.....	.....First—\$3
Julius Vogelsdorf...	Marysville.....	Ornamental paper work.....	.....Honorable mention
M. K. Laudenslager	San Francisco.	Best specimen of business penmanship.....	.....Diploma

FLOWERS, ETC.

Mrs. R. E. Goggings	Sacramento.....	Verbenas.....	.....First—\$5
Anthony Gaffenisch.	Sacramento.....	Best bouquets.....	.....First—\$5

FRUITS.

A. P. Smith.....	Sacramento ..	Best forty varieties of pears.....	.....First—\$15
A. P. Smith.....	Sacramento ..	Best twenty varieties of pears.....	.....First—\$10
R. Chalmers.....	El Dorado.....	Best forty varieties of apples.....	.....First—\$15
R. Chalmers.....	El Dorado.....	Best twelve varieties of peaches.....	.....First—\$5
E. W. Garrett.....	El Dorado.....	Best variety of native grapes.....	.....First
E. W. Garrett.....	El Dorado.....	Second best twenty varieties apples.....	.....Second—\$5
A. Gaffenisch.....	Sacramento ..	Greatest variety of foreign grapes.....	.....First—\$5
J. W. Marshall.....	El Dorado.....	Second greatest variety of foreign grapes.....	.....Second—\$3
A. Runyon.....	Onisbo.....	Best twenty varieties of apples .....	.....First—silver cup
Daniel Flint.....	Sacramento ..	Second best twenty varieties pears.....	.....Second—\$5
D. Kendall.....	Sacramento ..	Best twelve apple quinces.....	.....First—\$5
C. W. Reed.....	Yolo	Thirty-five varieties of pears.....	.....Special—diploma
B. N. Bugbey.....	Folsom	Best one variety grapes.....	.....First—diploma
Mrs. I. N. Hoag.....	Yolo	Best dried figs.....	.....First—\$5
Mrs. I. N. Hoag.....	Yolo	Best exhibit of preserved fruits.....	.....First—\$10
M. Keller.....	Los Angeles...	Best lemons.....	.....First
A. W. Roop.....	El Dorado.....	Best twenty varieties of pears.....	.....First—\$5

FIELD CROPS, ETC.

Daniel Flint.....	Sacramento ..	Best exhibit of hops.....	.....Special
Daniel Flint.....	Sacramento ..	Best five acres hops .....	.....First—\$25
C. G. Hidden.....	Sacramento ..	Exhibit of hops.....	.....Second
M. Keller.....	Los Angeles...	Best exhibit of tobacco.....	.....First
F. A. Harnden.....	San Francisco.	Cotton bolls.....	.....Special
M. Keller.....	Los Angeles...	Cotton plants.....	.....Special notice
José Rubio.....	Los Angeles...	Sample of cotton.....	.....Honorable mention
Hilton & Looney....	San Francisco.	Manufactured tobacco .....	.....Special—diploma

WINES, LIQUORS, ETC.

Exhibitor.	Residence.	Article.	Premium.
B. D. Wilson & Son.	Los Angeles...	White wine, four years old .....	.....First—\$5
C. Detton	San Joaquin...	White wine, four years old .....	.....Second—\$3
B. D. Wilson & Son.	Los Angeles...	White wine, three years old .....	.....First—\$5
B. D. Wilson & Son.	Los Angeles...	White wine, two years old .....	.....First—\$5
B. D. Wilson & Son.	Los Angeles...	Red wine, four years old .....	.....First—\$5
B. D. Wilson & Son.	Los Angeles...	Red wine, three years old .....	.....First—\$5
B. D. Wilson & Son.	Los Angeles...	Red wine, two years old .....	.....First—\$5
B. D. Wilson & Son.	Los Angeles...	Grape brandy, three years old and over.....	.....First—\$10
B. D. Wilson & Son.	Los Angeles...	Sherry wine .....	.....Special—diploma
B. D. Wilson & Son.	Los Angeles...	Madeira wine.....	.....Special—diploma
B. D. Wilson & Son.	Los Angeles...	Port wine .....	.....Special—diploma
B. D. Wilson & Son.	Los Angeles...	Claret wine .....	.....Special—diploma
B. D. Wilson & Son.	Los Angeles...	Exhibit of wine from native grapes.....	.....First—\$5
C. Detton	San Joaquin...	White wine, two years old .....	.....Second—\$3
C. Detton	San Joaquin...	White wine, one year old .....	.....First—\$5
M. Keller	Los Angeles...	White wine, one year old .....	.....Second
J. W. Marshall.....	El Dorado.....	Red wine, four years old .....	.....Second—\$3
C. F. Scholl	Yuba	Red wine, four years old .....	.....First—\$5
M. Keller	Los Angeles...	Red wine, one year old .....	.....Second—\$3
M. Keller	El Dorado.....	Red wine, one year old .....	.....Special—silver cup
M. Allhoff.....	El Dorado.....	Grape brandy, three years old .....	.....First—\$8
M. Allhoff.....	El Dorado.....	Grape brandy, two years old .....	.....First—\$5
M. Allhoff.....	El Dorado.....	Exhibit of wines from foreign grapes.....	.....Special—cup
M. Allhoff.....	El Dorado.....	Burgundy wine .....	.....Special
M. Allhoff.....	El Dorado.....	Grape brandy, one year old .....	.....First—\$5
C. F. Scholl	Yuba.....	White sparkling wine.....	.....First—\$5
C. F. Scholl	Yuba.....	Grape brandy, one year old .....	.....First—\$5
M. Keller.....	Los Angeles...	Angelica wine .....	.....Special
Theodore Weyand...	Yolo	Exhibit of brandy under one year of age.....	.....Special—diploma
V. Squarza.....	San Francisco.	Exhibit of superior punches.....	.....First—diploma
V. Squarza.....	San Francisco.	Exhibit of cordials.....	.....First—diploma
V. Squarza.....	San Francisco.	Exhibit of bitters.....	.....First—diploma

AN ACT

To protect sheep, and Cashmere and Angora goats, against the ravages of dogs.

[Approved March —, 1866.]

The People of the State of California, represented in Senate and Assembly, do enact as follows:

SECTION 1. Every owner, claimant, or keeper of a dog or dogs of the age of four months or over, shall hereafter pay an annual tax on all dogs owned, claimed, or kept by him or her—for the first male dog one dollar, for every additional male dog two dollars, and for every female dog three dollars.

SEC. 2. It shall be the duty of the County, District, or Township Assessors, as the case may be, at the time of making their annual assessments of real estate and personal property, to ascertain, by diligent inquiry and examination, the names of all persons owning, claiming, or keeping any dog or dogs, and they shall assess all such dogs in the amounts respectively as provided in the first section of this Act to the person or persons owning, claiming, or keeping the same, and shall make lists and delivery thereof on their annual tax lists or assessment rolls at the same time and in the same manner as their lists and delivery of other personal property are made and delivered; and the proper officers are hereby empowered and required to collect such tax on dogs in the same mode and manner as other taxes are collected, and to pay over the same into the County School Fund.

SEC. 3. Every dog kept or staying at any house, shall be deemed sufficient evidence of ownership to authorize the Assessor to return the person inhabiting the house as the owner of such dog; and any person sending his or her dog from house to house or from place to place in order to evade said tax, shall pay double rates therefor; and every dog not so returned shall be deemed to have no owner, and may be lawfully killed by any person seeing the same run at large.

SEC. 4. The owner or owners of any dog or dogs which shall worry, wound, or kill any sheep, Cashmere or Angora goats, shall be liable to the owner or possessor of such sheep, goat or goats, for the damages and costs of suit, to be recovered before any Court having jurisdiction in the case.

SEC. 5. Any person finding any dog or dogs, not on the premises of its owner, worrying, wounding, or killing any sheep, or Cashmere or Angora goats, may kill the same, and the owner thereof shall sustain no action for damages against any person so killing any dog or dogs under such circumstances

CIRCULAR.

STATE OF CALIFORNIA, OFFICE OF SURVEYOR-GENERAL, }
Sacramento, March 12th, 1866.

*To the Hon. Board of Supervisors, and to the
County, District, or Township Assessors of County:*

GENTLEMEN:—I beg leave to call your immediate attention to the following Act to provide for the collection of statistical information, which has just become a law, and to request that its provisions may be strictly complied with.

It has heretofore been the duty of the several Assessors to report this information to this office, but from the fact that the penalty provided by law has never been enforced, loose and carelessly prepared reports, and in many instances no reports whatever, have been furnished, and the statistical tables heretofore published with the annual reports of this office have consequently tended rather to mislead, than to give information to those seeking it.

The value to the State of correct reports of its agricultural and industrial interests cannot be too highly estimated, and if you will aid me to the extent of complying with your part of this law, they shall be correctly reported.

The reports sent in this year must be from January first, eighteen hundred and sixty-five, to January first, eighteen hundred and sixty-six.

Assessors will be required to present their reports to the Supervisors of their respective counties for examination, and to obtain their approval; and in addition to the articles enumerated in the sheets already sent out this year, they are requested to report the following information: Tons of beets, and value; pounds of peanuts; sugar cane—acres, tons, and value; cotton—acres, pounds, value; miles of ditch exclusively for agricultural purposes, and cost of same.

Before another year a new set of blanks will be sent out, which will be in more convenient form, and will, so far as consistent with the object to be attained, simplify the method of collection.

I have the honor to be, gentlemen,

Respectfully, your obedient servant,

J. F. HOUGHTON,
Surveyor-General.

AN ACT

To provide for the Collection of Information relating to the Agricultural and other industrial pursuits of this State.

[Approved March 10, 1866.]

The People of the State of California, represented in Senate and Assembly, do enact as follows:

SECTION 1. It shall be the duty of the several County, District, and Township Assessors of this State, at the time of making their annual

assessments, to collect a full and true statement of all the agricultural and industrial pursuits and products of their several counties, districts, and townships, for the preceding year, and such other information as they may be required by the Surveyor-General to collect, and to report the same to the office of the Surveyor-General, between the first day of September and the first day of November of each year, upon blanks to be furnished by him.

SEC. 2. The Board of Supervisors of the several counties of this State are hereby directed to reserve in their final settlement with their County, District, and Township Assessors, a sum equal to twenty-five per cent of the amount allowed by the State for making his annual assessment, until he shall furnish the certificate of the Surveyor-General that a satisfactory report, as provided in section one of this Act, has been received at his office, which certificate shall in all cases be given when a satisfactory report has been made.

SEC. 3. The Surveyor-General shall furnish to the Secretary of the Board of Agriculture a duplicate copy of each statistical report of the Assessors as soon as the same may be received by him.

SEC. 4. The Surveyor-General shall forward a printed copy of this Act to each of the Board of Supervisors of this State, and to each of the County, Township, and District Assessors.

SEC. 5. This Act shall take effect immediately.

AN ACT

For the Encouragement of Agriculture and Manufactures in California.

[Approved April 25, 1863.]

The People of the State of California, represented in Senate and Assembly, do enact as follows:

SECTION 1. There shall be paid from any money in the Treasury not otherwise appropriated, to the producer claiming a premium by virtue of the provisions of this Act, the following sums for each of the articles herein enumerated, grown and manufactured in California:

For the first one hundred bags of sugar, containing one hundred pounds each, produced from sorghum, five hundred dollars. For the same quantity produced the next succeeding year, two hundred and fifty dollars. For the same quantity produced the second succeeding year, one hundred and fifty dollars. For the same quantity produced the third succeeding year, one hundred dollars.

For the same quantity of sugar produced from sugar cane, the same premiums, and upon the same conditions, shall be paid; and also for the same quantity produced from beet root, the same premium, upon the same conditions.

For the first two hundred barrels molasses manufactured from sorghum, two hundred dollars. For the first two hundred barrels molasses manufactured from sugar cane, five hundred dollars.

For the first two hundred bales of flax of two hundred pounds each, one thousand dollars. For the same quantity produced in the first, sec-

ond, and third succeeding years, three hundred dollars, two hundred dollars, and one hundred dollars, respectively. For the first one thousand bales of flax, of two hundred pounds each, two thousand dollars.

For the production of hemp, the same premiums as are awarded on flax.

For the first one hundred bales of cotton, of three hundred pounds each, three thousand dollars. For the same quantity produced in the first, second and third succeeding years, two thousand, one thousand, and five hundred dollars, respectively.

For the first two hundred bales of tobacco, one hundred pounds each, three hundred dollars. For the same quantity produced the first, second, and third succeeding years, two hundred and fifty dollars, two hundred dollars, and one hundred and fifty dollars, respectively. For the first one thousand bales, of one hundred pounds each, one thousand dollars. For the first one hundred cases, of fifty pounds each, of manufactured tobacco, two hundred and fifty dollars. For the same quantity in the first, second, and third succeeding years, two hundred dollars, one hundred and fifty dollars, and one hundred dollars, respectively. For the first one thousand cases of manufactured tobacco, of fifty pounds each, one thousand dollars.

For the first one thousand bales of hops, of two hundred pounds each, one thousand dollars. For the same quantity, produced in the first, second, and third succeeding years, six hundred dollars, four hundred dollars, and two hundred dollars, respectively.

For the first ten bales of raw silk, of one hundred pounds each, two thousand dollars. For the first one hundred bales of raw silk, of one hundred pounds each, five thousand dollars.

For the first one thousand pieces of cotton drilling, of forty yards each, two thousand dollars. For the first one thousand bales of cotton drilling, of sixteen hundred yards each, four thousand dollars.

For the first one thousand pieces of burlap, of forty yards each, suitable for grain sacks, two thousand dollars. For the first one thousand bales of the same quality and description, of sixteen hundred yards each, three thousand dollars. For the first one thousand pieces of burlap, of forty yards each, suitable for wool sacks, two thousand dollars. For the first one thousand bales, of sixteen hundred yards each, of same quality and description, two thousand dollars.

For the first one hundred pieces of hemp carpeting, colored, of forty yards each, two hundred dollars. For the first thousand pieces, of forty yards each, one thousand dollars.

For the first one hundred pieces of linen, of forty yards each, suitable for shirts, or miners' frocks, one thousand dollars. For the first one thousand pieces of same description, one thousand dollars.

For the first one hundred pieces of calico, of thirty yards each, five hundred dollars. For the first one thousand pieces of calico, of thirty yards each, one thousand dollars.

For the first one hundred pieces of cotton shirting, of forty yards each, one thousand dollars. For the first one thousand pieces of cotton shirting, of forty yards each, one thousand dollars.

For the first hundred pieces of cotton sheeting, of forty yards each, one thousand dollars. For the first one thousand pieces of cotton sheeting, of forty yards each, one thousand dollars.

For the first one thousand pieces, of forty yards each, of pilot cloths,

broadcloths, tweeds, or cassimeres, exported from the State, on each specification, two thousand dollars. On the first, second, and third succeeding shipment, of the same quantity, fifteen hundred dollars, one thousand dollars, and five hundred dollars, respectively, on each specification.

For the first one hundred bales of blankets, of forty pairs each, exported from the State, one thousand dollars. For the first one thousand bales of blankets, of forty pairs each, exported from the State, two thousand dollars.

For the first one hundred pieces of ingrain carpet, of sixty yards each, two hundred dollars. For the first thousand pieces of ingrain carpet, of sixty yards each, one thousand dollars. For the first one hundred pieces of Brussels carpet, of sixty yards each, two hundred dollars. For the first one thousand pieces of Brussels carpet, of sixty yards each, one thousand dollars.

For the first one thousand pairs of wool socks, two hundred and fifty dollars. For the first one thousand dozen wool socks, five hundred dollars.

For the first one thousand pairs woollen drawers, three hundred dollars. For the first one thousand dozen pairs of woollen drawers, five hundred dollars.

For the first one thousand woollen undershirts, three hundred dollars. For the first one thousand dozen woollen undershirts, five hundred dollars.

For the first twenty-five bales cottonized flax, of one hundred pounds each, one thousand dollars. For the first one thousand bales of cottonized flax, of one hundred pounds each, one thousand dollars.

For the first one hundred cases of men's boots, of twelve pairs each, five hundred dollars. For the first one thousand cases of men's boots, of twelve pairs each, one thousand dollars.

For the first one hundred cases men's shoes, of twenty-four pairs each, five hundred dollars. For the first one thousand cases men's shoes, of twenty-four pairs each, one thousand dollars.

For the first one hundred cases women's shoes, of thirty-six pairs each, five hundred dollars. For the first one thousand cases of women's shoes, of thirty-six pairs each, one thousand dollars.

For the first one hundred cases children's shoes, of forty-eight pairs each, two hundred and fifty dollars. For the first three hundred cases children's shoes, of forty-eight pairs each, five hundred dollars.

For the first ten chests of tea, of twenty-five pounds each, one thousand dollars. For the first one hundred chests of tea, of fifty pounds each, two thousand dollars. And for the same quantity of the same article produced the first, second, and third succeeding years, fifteen hundred dollars, one thousand dollars, and five hundred dollars, respectively.

For the production of coffee, the same premium shall be awarded as on the production of tea.

For the first one hundred coils of assorted cordage, of sizes not less than one inch, and length not less than sixty fathoms, two hundred and fifty dollars. For the same tarred, five hundred dollars.

For the first ten barrels of tar, two hundred dollars. For the first one hundred barrels of tar, five hundred dollars.

For the first ten barrels of rosin, one hundred and fifty dollars. For the first one hundred barrels of rosin, three hundred dollars.

For the first ten barrels of pitch, one hundred and fifty dollars. For the first one hundred barrels of pitch, three hundred dollars.

For the first one hundred gallons of spirits of turpentine, two hundred and fifty dollars. For the first one thousand gallons of spirits of turpentine, five hundred dollars.

For the first one hundred reams of printing paper, manufactured from cotton, five hundred dollars. Manufactured from any other fibre or material, the same premium; and for the first one thousand reams of each manufactured, one thousand dollars.

For the first book, of not less than three hundred pages, on the mining and industrial resources of California, printed on California paper, stitched with California thread, and bound in California skins and boards, five hundred dollars. For the second, of the same character and description, two hundred and fifty dollars. For the third, one hundred and fifty dollars.

For one thousand dozen of glass wine bottles, fifteen hundred dollars.

For the first one thousand cases of bottled beer, of two dozen each, exported, and proved to withstand sea voyages and changes of climate, fifteen hundred dollars. And for the first, second, and third succeeding shipment, one thousand dollars, seven hundred dollars, and five hundred dollars, respectively.

For the first one hundred packages of linseed oil, of twenty gallons each, one thousand dollars.

For the first one hundred packages of cotton seed oil, of twenty gallons each, one thousand dollars.

For the first plantation of cotton, of not less than ten acres, in bearing of good staple, one thousand dollars. For the first fifty acres of cotton in bearing of good staple, two thousand dollars. For the first one hundred acres of cotton, in bearing of good staple, three thousand dollars. For the first plantation of tree cotton, of not less than ten acres, in bearing of good staple, three thousand dollars.

For the first ten cases of indigo, of one hundred pounds each, one thousand dollars.

For the first one thousand pounds of rice, two hundred and fifty dollars; for the first five thousand pounds of rice, five hundred dollars; for the first ten thousand pounds of rice, one thousand dollars; and for the same quantity produced the first, second, and third succeeding years, the same premium shall be paid.

Sec. 2. The President of the State Agricultural Society; the President of the Agricultural, Horticultural, and Mechanical Society of the Northern District; the President of the San Joaquin Valley Agricultural Society; the President of the Mechanical Institute in San Francisco, and the Governor of the State, who shall be President of the Board, shall constitute a Board of Judges, a majority of whom shall constitute a quorum for the transaction of all business, whose duty it shall be to examine and judge of the products herein mentioned, and award the premiums named to the parties entitled to them, according to the provisions of this Act.

Sec. 3. No person exhibiting any article or articles named in this Act shall be entitled to a premium therefor unless the articles so exhibited be good and merchantable, and the best of the kind so exhibited. And no article produced or manufactured within any one year shall be exhibited for premium herein offered more than once, and such exhibition shall be accompanied by a statement, in detail, of the culture or manufacture, and cost, together with satisfactory proof that the article or articles exhibited have not been before exhibited for any such pre-

mium, and that the same was produced or raised, and manufactured, within the State of California.

SEC. 4. The Judges shall fix upon the time and place of such exhibition of articles for premiums, but samples of all articles exhibited, or intended to be exhibited, within any given year, shall be exhibited by sample at the annual fair of each of the societies named in this Act within such year, or within the next succeeding year, and may receive such premiums from other societies as they may deem proper to offer, in accordance with the rules of such society.

SEC. 5. Upon the award of a premium to any person, the Judges shall certify the same to the Controller of State; and upon the presentation of such certificate to the Controller, he shall draw his warrant for the amount named therein upon the State Treasurer, according to law.

AN ACT

Supplemental to an Act entitled an Act for the encouragement of Agriculture and Manufactures in California.

[Approved April 27, 1863.]

The People of the State of California, represented in Senate and Assembly, do enact as follows:

SECTION 1. Any person producing or manufacturing any one of the articles or things named in the Act to which this Act is supplemental, in one fourth or one half the quantity named therein, and exhibiting the same in like manner and form, as specified in said Act, shall be entitled to one fourth or one half the premium (as the case may be) offered in said Act for the production or manufacture of said article or thing, to be awarded by the Board of Judges therein named, and in accordance with the provisions of said Act; *provided*, however, that no person shall receive a premium, under this Act, for any article or thing, in any given year, when a premium has been claimed and awarded for the same kind of article or thing in the same year under the Act to which this Act is supplemental; and claims for premiums under said Act shall not be prejudiced by claims under this.

SEC. 2. This Act shall be in effect from and after its passage.

PREMIUMS AWARDED UNDER THE FOREGOING LAW.

To Nash & Fogg, Stockton:	
For men's shoes.....	\$125 00
For men's boots.....	125 00
To Pioneer Paper Mills, San Francisco:	
For first 1,000 reams printing paper, manufactured from cotton	1,000 00
For first 100 reams printing paper, manufactured from cotton	500 00
To Pacific Glass Company, San Francisco:	
For 1,000 dozen wine bottles.....	1,500 00
To Jackson & Johnson, Sacramento County:	
For first ten acres of cotton.....	1,000 00
To J. W. Jacobson, Marysville:	
For first 1,000 gallons spirits of turpentine	500 00
For first 100 barrels rosin.....	300 00
For first 10 barrels rosin.....	150 00
To Thomas Edwards, Sacramento County:	
For first 100 bales tobacco.....	300 00
To Isaac Chase, Sacramento:	
For first two and one half barrels tar.....	50 00
To Mission Woollen Mills, San Francisco:	
For first 100 bales blankets, 40 pairs each, exported	1,000 00
For first 1,000 pieces woollen cloth, exported.....	1,000 00
For first 250 pairs woollen drawers, exported.....	75 00
For first 250 pairs woollen undershirts, exported.....	75 00
George K. Porter:	
Premium on boots and shoes, April 22, 1865.....	1,000 00
Premium on boots, October 21, 1865	1,000 00
Daniel Flint:	
Premium on hops, December 22, 1865	250 00
Matthew Keller:	
Premium on cotton plantation, Dec. 22, 1865.....	3,000 00
Total premiums.....	\$12,950 00

STATE BOARD OF AGRICULTURE FOR 1866.

PRESIDENT.

CHARLES F. REED.....Grafton, Yolo County.

DIRECTORS.

B. R. CROCKER.....Sacramento.
T. L. CHAMBERLAIN.....Placer.
WILLIAM P. COLEMAN.....Sacramento.
A. G. RICHARDSON.....Sacramento.
ROBERT BECK.....Sacramento.
R. J. WALSH.....Colusa.
C. T. WHEELER.....Sacramento.
JOHN H. CARROLL.....Sacramento.
EDGAR MILLS.....Sacramento.

OFFICERS OF THE BOARD.

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I. N. HOAG...Yolo. P. O., Sacramento.

Treasurer.

R. T. BROWN.....Sacramento.

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Geologist.

Prof. WM. P. BLAKE.....San Francisco.

Meteorologist.

T. M. LOGAN, M. D.....Sacramento.

Zoologist.

J. G. COOPER, M. D.....Santa Cruz.

Entomologist.

H. H. BEHR, M. D.....San Francisco.

Botanists.

A. KELLOGG, M. D., San Francisco.

Prof. H. N. BOLANDER, San Francisco.

CONTENTS.

	Page.
Officers for 1864.....	3
Charter of incorporation.....	5
Board of Agriculture, Act organizing.....	6
Debt, Act funding.....	7
Constitution of Society.....	9
Address of M. C. Briggs.....	14
Trials and results of speed, 1864.....	22
Premiums awarded in 1864.....	27
Annual meeting, 1865.....	29
Report of the Board for 1864.....	29
Reports of Treasurer and Secretary for 1864.....	43
Officers for 1865.....	54
Report of the Board for 1865 to the Governor.....	55
History of the society for 1864 and 1865.....	57
Finance.....	59
Statistics.....	60
Bureau of Immigration.....	61
Sheep husbandry and dogs.....	63
Cattle plague.....	65
Fencing, and grain farming.....	66
Immigration.....	69
Land titles.....	75
Agricultural lands in mineral districts.....	76
Agricultural College lands.....	77
Agricultural and Mechanic Arts College.....	78
Annual meeting for 1866.....	94
Supplemental report of the Board for 1865.....	94
Reports of Treasurer and Secretary for 1865.....	95
Reports of Committees.....	107
Agricultural College Resolutions.....	109
Henry Clay's picture.....	111
Corps of Scientific Officers organized.....	112
Report of Dr. J. G. Cooper, Geologist.....	116
Report of Dr. H. Behr, Entomologist.....	129
Report of Prof. H. M. Bolander, Botanist, on the Grasses of the State.....	131
Report of Dr. A. Kellogg, Botanist, on the Trees and Shrubbery of the State.....	146
Report of Dr. Thomas M. Logan, Meteorologist.....	164
Report of Dr. R. Oxland, Metallurgist and Chemist.....	171

Annual Address, by Dr. J. F. Morse.....	174
Address by Hon. A. A. Sargent: Agricultural College.....	187
Address of Hon. John Bidwell.....	202
Address of Dr. E. S. Holden.....	214
Reports of County Assessors.....	222
Silk Culture in California, by L. Prevost.....	256
Agriculture in Southern California, by Solomon W. Jewett.....	259
Cotton Culture in California—Statement of A. R. Jackson.....	262
Letter from José Rubio.....	264
Statement of Livermore, Jewett & Co.....	265
Statement of Matthew Keller.....	268
Textile Fibres of the Pacific Coast, by Wilson Flint.....	271
Grape Culture in California, by Colonel A. Haraszthy.....	299
Wheat and Barley, culture of, by Henry Gaddis.....	296
Irrigation in Yolo County—statements of Judge J. A. Hutton and N. Wyckoff.....	301
Cashmere Goats, by William Landrum.....	304
Cheesemaking, by Samuel Cole.....	306
Rinderpest; report of Professor Simonds.....	309
California Marble, by Israel Luce.....	314
Mining Review for 1865.....	315
Report of Professor William P. Blake, Geologist, on Mineral Species of California, etc.....	334
Imports of articles we should produce—Butter, Cheese, Bacon, Hams, Pork, and Lard.....	368
Sugar and Molasses.....	370
Manner of making sugar and molasses from beets.....	374
Raisins, Apples, and other fruits.....	376
Average prices of merchandise for 1864 and 1865.....	380
Exports from California of produce, for six years past.....	382
Exports of treasure for three years.....	388
Value of exports of all descriptions.....	388
Movement of treasure for three years.....	388
Coin absorbed in the interior for three years.....	389
Premiums awarded in 1865 for speed.....	390
Premiums on Stock.....	395
Premiums on Agricultural implements, etc., at hall.....	399
Act to protect sheep and goats against dogs.....	406
Act for the collection of Agricultural statistics.....	407
Act for encouragement of Agriculture and Manufactures.....	408
Supplemental Act for encouragement of Agriculture and Manufactures.....	412
Premiums awarded under an Act for the encouragement of Agriculture and Manufactures.....	413
State Board of Agriculture for 1866.....	414

MAJORITY AND MINORITY REPORTS

OF THE

Assembly Committee on Elections,

ON THE

Contested Election of Brown v. Frink,

WITH

TESTIMONY AND DOCUMENTS.

MAJORITY REPORT.

Mr. SPEAKER:—The Committee on Elections, to whom was referred the contested election case of Brown v. Frink, have had the same under consideration, and after a careful investigation, submit the following report:

Mr. Frink, the sitting member, objected to the proceedings on the grounds that no statement was filed, as required by law in relation to contested elections.

The committee deemed the objection not well taken, because, by the provision of the Constitution of this State, the Assembly has the exclusive right of judging of the election and qualification of its own members, which right the committee believed might be exercised at any time, whether any action was taken by the contestant or not, and at any time it might see fit to investigate the matter. In this case, however, the contestant Brown, at the time the sitting member presented himself before this body and demanded to be sworn, filed his protest thereto, giving his reasons therefor.

The committee find that from the election returns from Amador and Alpine Counties, the sitting member received a majority of one vote.

The committee also find that at Fort Mohave, Patrick Muldoon and Alfred Pharis voted for the sitting member, the former of whom was an alien, and the latter a minor, at the time of voting, and hence that their votes should be taken off the votes counted by the canvassers for the sitting member; also, that Frank Maxon, a non-resident of Amador or Alpine County, voted for Mr. Frink, making three votes to be deducted from the votes counted for Mr. Frink, which gives a majority of two votes for Mr. Brown.

The sitting member seeks to establish that illegal votes were cast at the Clinton Precinct for the contestant, at which precinct there were seventy-three votes cast, of which the sitting member received six votes, the contestant sixty-four, and three scattering.

Mr. Frink seeks to establish that some (as he insists) illegal votes were given at that precinct for the contestant, by showing that the six votes cast at that precinct for himself were legal votes, for which purpose he produces the persons who voted for himself, who establish that fact to the satisfaction of the committee. Sebastian Largo Macinno, and Vingo Serrillo, voted at that precinct, and the evidence shows (if we admit the record evidence not provided for in the stipulation) that these men

were naturalized after they had voted for Mr. Brown, hence it follows that their votes were illegal; but it will be perceived that at the Clinton Precinct, three votes for member of the Assembly, that were not cast for either the sitting member or the contestant, and hence there is nothing to prove, although these votes were illegal, that they voted for the contestant, and the committee so decided.

Bartolomeo Lixi voted at the Clinton Precinct, and the records show that he was afterwards naturalized. The same process of reasoning is resorted to to prove that he voted for contestant as that used to prove Macinno and Serrillo voted for him—which the committee deemed insufficient; besides which, Bartolomeo Lixi was examined himself, who stated on oath that he had been fully naturalized in New York in eighteen hundred and forty-seven or eighteen hundred and forty-eight, but that after he moved to Clinton his cabin was burned up, together with his naturalization papers; and fearing that should he leave Clinton and attempt to vote where he was not known his vote would be refused, and hence he deemed it best to procure his second papers again. Therefore, the committee held that even were it proven that he voted for contestant he was a legal voter.

On the Clinton poll list, (if admitted as evidence when not provided for by the stipulation,) the names of John Quarrillo and Joseph Quarrillo appear twice—which, it is insisted by the sitting member, is sufficient evidence that they each of them voted twice. The contestant, Brown, however, proves that there were in Amador County three John Quarrillos and three Joseph Quarrillos, besides a number of others of the same surname in the county. This was proven by one of the Judges of the Election held at Clinton Precinct; also, by other parties who were acquainted in that county—and the Judge of the Election, when asked, stated, under oath, that there was no double voting at that precinct on that day; also, that he was acquainted with most of the voters at that precinct. Hence, the committee conclude that, although the same name appeared on the poll list twice, in connection with the evidence that there were more than two men at that precinct of the same name, it was not proven that the same person voted twice.

Wherefore, the committee find that A. C. Brown is entitled to the seat now occupied by Mr. Frink in this body as member of the Assembly from the Counties of Amador and Alpine, and recommend the adoption of the following resolution:

Resolved, That A. C. Brown is entitled to the seat as member of the Assembly from the Counties of Amador and Alpine, now occupied by Miner Frink.

All of which is respectfully reported.

HANSBROW, Chairman.
HOLDEN,
REED,
CHAMBERLAIN,
DORR,
COLLIER.

MINORITY REPORT.

MR. SPEAKER:—A minority of your Committee on Elections, to whom was referred the contested election case of Brown v. Frink, having examined the evidence produced, would respectfully beg leave to report the same back to the House, and recommend the passage of the following resolution:

Resolved, That Miner Frink, Jr., is justly entitled to the seat now occupied by him upon the floor of this House.

All of which is respectfully submitted.

COGHLAN:

MINUTES OF PROCEEDINGS OF COMMITTEE ON ELECTIONS.

Committee met, pursuant to notice, December sixth, eighteen hundred and sixty-five, at seven o'clock P. M. Mr. Hansbrow in the Chair.

Present—Messrs. Hansbrow, Chamberlain, Reed, Dorr, Holden, and Coghlan.

Committee proceeded to take up the case of Brown v. Frink, when the following papers were offered in evidence by the contestant, viz :

First—Protest of A. C. Brown, marked "A."

Second—Statement, marked "B."

Third—Certificate of soldiers' vote, marked "C."

Fourth—Copy of tally list of Amador County, marked "D."

Fifth—Vote of Amador County, less soldiers' vote, marked "E."

Mr. Frink offered that no legal notice of contest was served, and therefore claimed that contestant was barred by the statute.

Mr. Brown offered that affidavits would be produced showing five illegal votes in favor of contestant.

Mr. Frink agrees that statement "B," offered by contestant, is correct in so far as it relates to the number of votes cast.

Mr. Brown offered in evidence Act of April first, eighteen hundred and sixty-four, in relation to soldiers' vote.

On motion, the committee then arose, to meet Thursday, December eighth, at two o'clock P. M.

TESTIMONY AND DOCUMENTS

RELATING TO THE

Contested Election of Brown v. Frink.

DOCUMENTS.

PERSONS WHOSE VOTES ARE DEEMED ILLEGAL.

In the contest of A. C. Brown v. Miner Frink, Jr.; before Harvey E. Babcock, Commissioner.

That the following is a list of names of the persons who voted at the election, held September sixth, A. D. eighteen hundred and sixty-five, in Amador County, which A. C. Brown believes were not entitled to vote at such election; and he will show that said persons voted for Miner Frink, Jr., for the office of Assemblyman; and if they were not entitled to vote, as above stated, their votes should be deducted from the votes received by said Frink. To wit:

J. L. F. Knocheo.
Louis Loughtier.
William Boyal.
Louis Biggio.
Charles Witter.
James Grillo.
Louis Raffo.
Nicola Noezilia.
Edward Dowval.
Giovanni Zantagoli.
Edward Chatell.
Dominica Biasotto.
Sebastian Lagomarzino.
Giovanni Canoppi.
Vincenzo Cerelli.
Joe Williams.
Giabatto Genachio.
Guytana Raffo.
Antonia Lewnio.
Bartolo Zixe.
Giovanni Qwirole.
Bartolomo Beblia.
John Patero.

Joseph La Frank.
Dominica Bregnoio.
Adolph Dowet.
Giacomo Pendola.
Louis Mazona.
John Baptiste Severnne.
Gasparo Galeria.
Antonia Rossi.
Gambatisto Deneri.
Gambatisto Cuinneo.
Gerolamo Qwirole.
Stephen Garbarena.
John Kossuth.
Edward De Bernardi.
John Laird.
Giacomo Brunoni.
Raphael Tapeano.
Vincenzo Maschio.
Francisco Boferine.
John Dovoto.
Dominica Rebole.
Louis Schlaeppi.
Joseph Ratto.

Daniel Murphy.
Charles Bona.
John Travis.
Augustino Graffigia.
Joseph Montedonico.
Joseph Suize.
Frank Maxon.
John Lucius.
Philip Borger.
Besbonis Sareri.
Domingo Caballero.
Mr. Kelton.

Joseph Hallmann.
Louis Gasorlo.
Joseph Collier.
John Gray.
Micheal Gatto.
Guinio Genissi Morria.
Nelson P. Dibble.
Albert Cook.
Domingo Knocheo.
José Maria Hernandez.
Patrick Moreatta.

The following is a list of soliers' votes claimed to be illegal:

Alfred A. Pharis.
E. W. Reed.
Charles W. Andell.
Joseph Erhart.
Marion F. Luttrell.
C. H. Peterson.
Joseph Alyea.

Patrick Muldoon.
John Robinson.
William McCormick.
Homer Miner.
Ramon Molina.
William James.

List of Witnesses.

John Pharis.
Barney Muldoon.
Domingo Cabellero.
John Burk.
John Raff.
William Ensley.
John R. Dicks.
Thomas D. Wells.
George Durham.
John Dickson.
John Shermanhoff.
James Carroll.
Giles Crandall.
James T. Brown.
B. Camminetta.
E. Turner.
Anton Aratta.
Frank Rocco.
M. Hefron.
Stephen Gerome.
E. G. Hunt.
B. B. Redding.
H. Harris.
R. Casner.
Christo Cantena.
Dal Porto.
Gus Froelish.
Dan Myers.
John Gaver.
George Sairs.

Edward Muldoon.
Mrs. Robinson.
William Luttrell.
A. H. Rose.
Joseph Aratta.
A. Askey.
J. C. Shipman.
G. O. Perry.
Fred Balls.
A. Chigazola.
Mat Ryan.
M. O'Neal.
J. W. Armstrong.
B. Sanguinetta.
H. Cook.
John Northrop.
Ricco Antipa.
E. C. Parmer.
J. Surface.
George Harvey.
James T. Farley.
C. Y. Hammond.
Samuel Levy.
Henry Trewb.
W. H. Nelson.
Peter Pedro.
J. W. Harrington.
D. W. M. Seaton.
Add. C. Hinckson.
John A. Eagan.

Moses Madena.
William Payton.
Edward Gallagher.
James Stephens.
Doctor Booman.
William Pearce.
John James.
George White.
D. B. Spagnolia.
James Fleming.
Jacob Ribscher.
Nelson P. Dibble.
Thomas Serrocco.
A. Kechler.
Charles Smith.
William Mooney.
John Kelly.
P. Kelly.
Daniel Mahoney.
— Longenetta.
Louis Martell.
— Cannoneta.
S. Blanchard.
— Benware.
Peter David.
Domingo Caballero.
Edward Hesser.

— Sullivan.
Robert Wadsworth.
V. B. Putnam.
Andrew Barton.
M. B. Oliver.
John Woods.
Francis McGrath.
— Condellero.
— Birani.
Isaac Tripp.
L. McLain.
— Gonsolis.
James Saltry.
S. P. Gowlett.
J. Compton.
J. Mahoney.
William Sharp.
George Cress.
John Aratta.
Daniel Worley.
Thomas Bradshaw.
J. McClain.
Henry Genochia.
Edward Benware.
Patrick Moreatta.
— Kelton.
John S. Campbell.

GEORGE R. MOORE,
ARMSTRONG & BROWN,
Attorneys for Contestant.

JACKSON, December 25th, 1865.

[Statement A.]

PROTEST OF A. C. BROWN.

ASSEMBLY CHAMBER,
December 4th, 1865. }

To O. C. WHEELER, Esq.,
Clerk of the Assembly of California:

SIR:—It appearing that Miner Frink, Jr., has secured a certificate of election as a member of the Assembly from the Counties of Alpine and Amador, and said certificate having been issued to said Frink without authority of law, and without his having received a majority of the votes cast at the election in said counties for Assemblyman; and it appearing that the undersigned did receive a majority of the votes cast for Assemblyman at the election in the said Counties of Alpine and Amador, and that the undersigned was therefore duly elected, and is entitled to the seat claimed by said Frink by virtue of said illegal certificate; now, therefore, the undersigned does hereby protest against

your recognizing said Frink as a member elect of the Assembly, and demands that the oath of office shall not be administered to said Frink, but that said oath shall be administered to A. C. Brown, the undersigned.

The grounds upon which Mr. Brown relies are as follows:

First—A. C. Brown received a majority of sixty-nine votes of the legal votes cast in said Assembly District. Seventy votes were counted by the Board of Canvassers, for Mr. Frink, which were illegal—they being soldiers in the service of the United States, and at the time of voting were without the limits of this State; five of whom were not entitled to vote in said district by reason of nonage and want of citizenship.

Second—Other illegal votes were counted for Mr. Frink.

A. C. BROWN.

[Statement B.]

The record shows that one thousand five hundred and twelve votes were cast at the general election held on September sixth, eighteen hundred and sixty-five, for Miner Frink, Jr., for the office of Assemblyman in the Counties of Amador and Alpine, and that one thousand five hundred and eleven votes were cast for A. C. Brown, who was the rival candidate for the same office. Of the one thousand five hundred and twelve ballots cast for Frink, seventy were cast by soldiers (without the limits of the State) under the Act of April first, one thousand eight hundred and sixty-four, and on that ground are to be rejected, leaving one thousand four hundred and forty-two votes only standing to the credit of Frink, and that number is overcome by the one thousand five hundred and eleven standing to the credit of Brown.

[Statement C.]

CERTIFICATE OF SOLDIERS' VOTES.

Official statement of soldiers' votes, as certified by the Secretary of State, and cast at the general election, held on the sixth day of September, A. D. one thousand eight hundred and sixty-five, for Senator and members of the Assembly. Whole number of soldiers' votes cast as certified, seventy. Said votes were cast without the limits of the State of California:

FOR STATE SENATOR.

R. Burnell, received sixty-four votes.

G. W. Seaton, received one vote.

FOR MEMBERS OF THE ASSEMBLY.

Miner Frink, Jr., received seventy votes.

O. F. Thornton, received sixty-nine votes.

STATE OF CALIFORNIA, }
County of Amador. } ss.

I, E. S. Hall, County Clerk in and for Amador County, do hereby certify that the above soldiers' vote was counted and allowed by the Board of Supervisors of said county as a Board of Canvassers, on the sixth day of November, A. D. one thousand eight hundred and sixty-five, and is now of record in my office.

In witness whereof, I have hereunto signed my name and affixed the seal of the County Court aforesaid, at Jackson, this first day of December, A. D. one thousand eight hundred and sixty-five.

E. S. HALL, County Clerk.

[Statement D.]

TALLY LIST OF AMADOR COUNTY:

	R. Burnell.....	G. W. Seaton....	M. Frink, Jr.....	O. F. Thornton...	A. C. Brown.....	Harvey Lee.....
Lancha Plana.....	60	39	78	60	18	30
Buena Vista.....	28	11	27	27	12	12
Volcano.....	157	112	163	162	107	109
Aqueduct City.....	12	29	12	13	29	29
Butterfield's Ranch.....	33	4	29	29	7	7
Pine Grove.....	43	33	44	44	32	32
Upper Rancheria.....	8	26	8	8	26	26
Foster's Ranch.....	13	13	13	14	13	11
Avery's Mill.....	15	15	17	17	14	14
Alabama House.....	27	8	26	26	8	8
Sutter Creek.....	122	120	133	131	107	112
Amador.....	33	109	40	41	105	104
Drytown.....	55	112	59	59	107	105
Willow Springs.....	17	23	24	24	13	17
Forest Home.....	23	20	28	27	12	14
Copper Hill.....	19	19	23	22	17	16
Butte City.....	21	22	19	21	24	22
Jackson.....	169	221	159	154	232	233
Irish Hill.....	25	21	16	16	26	30
New York Ranch.....	18	10	16	17	14	13
Badger's Store.....	25	21	25	25	21	21
Fiddletown.....	92	104	83	89	99	104
Yeomet.....	33	55	34	34	56	56
Clinton.....	6	64	6	6	64	64
Lone Valley.....	145	65	115	117	91	88
	1,199	1,276	1,202	1,183	1,254	1,277

SOLDIERS' VOTE.

	R. Bunnell.....	G. W. Seaton....	M. Frink, Jr.....	O. F. Thornton..	A. C. Brown.....	Harvey Lee.....
Fort Mohave.....	62	1	68	68	.....	.....
Fort Yuma	1	.....	1	.....	.....	.....
Camp Cady.....	1	.....	1	1	.....	.....
Totals	1,263	1,277	1,272	1,252	1,254	1,277

STATE OF CALIFORNIA, }
County of Amador. } ss.

A. C. Brown, being duly sworn, says that the annexed is a true statement of the election returns of the election held in and for said county on the sixth of September, eighteen hundred and sixty-five, for the officers therein mentioned, which were returned to the Clerk's office of said county; that the statement is true as to the number of votes cast at each precinct in said county, and the number of votes cast by soldiers out of the State, and out of the county, at the places designated therein. That said affiant applied to the Clerk of said county for a certified copy of the said returns and the minute roll of the Supervisors who canvassed said votes; that said Clerk, E. S. Hall, refused to give said affiant such certified copy of the record of said votes, though affiant duly tendered his legal fees for the making and certifying the same; the said Clerk then and there assigning as a reason, and the only reason, why he would not give said certified copy of said record, that he would not give affiant anything by which said affiant could "make a point against Miner Frink, Jr.," who was an opposing candidate at said election for Assemblyman against this affiant; that being unable to obtain such certified copy of said record, affiant has made a copy thereof, or statement, of said election returns, so far as the same affects said legislative officers therein mentioned, or the candidates as mentioned, and here verifies the same as true and correct.

A. C. BROWN.

Sworn and subscribed to before me, this twenty-ninth day of November, eighteen hundred and sixty-five.

HARVEY E. BABCOCK,
Notary Public, Amador County, California.

[Statement E.]

VOTE OF AMADOR COUNTY, LESS THE SOLDIERS' VOTE.

	R. Bunnell.....	G. W. Seaton....	M. Frink, Jr.....	O. F. Thornton..	A. C. Brown.....	Harvey Lee.....
Lancha Plana.....	60	39	78	60	18	30
Buena Vista.....	28	11	27	27	12	12
Volcano	157	112	163	162	107	109
Aqueduct City.....	12	29	12	13	29	29
Butterfield's Ranch....	33	4	29	29	7	7
Pine Grove.....	43	33	44	44	32	32
Upper Rancheria.....	8	26	8	8	26	26
Foster's Ranch.....	13	13	13	14	13	11
Avery's Mill	15	15	17	17	14	14
Alabama House.....	27	8	26	26	8	8
Sutter Creek.....	122	120	133	131	107	112
Amador.....	33	109	40	41	105	104
Drytown	55	112	59	59	107	105
Willow Springs.....	17	23	24	24	13	17
Forest Home.....	23	20	28	27	12	14
Copper Hill.....	19	19	23	22	17	16
Butte City.....	21	22	19	21	24	22
Jackson	169	221	159	154	232	233
Irish Hill.....	25	21	16	16	26	30
New York Ranch.....	18	10	16	17	14	13
Badger's Store.....	25	21	25	25	21	21
Fiddletown	92	104	88	89	99	104
Yeomet.....	33	55	34	34	56	56
Clinton.....	6	64	6	6	64	64
Lone Valley.....	145	65	115	117	91	88
Totals.....	1,199	1,276	1,202	1,183	1,254	1,277

AMADOR COUNTY, CAL.,
November, 8th, 1865. }

The Board of Supervisors of the County of Amador, State of California, acting as a Board of Canvassers, hereby certify that the foregoing is a true statement of all the votes cast within the County of Amador, and State of California, at the general election held therein on the sixth day of September, eighteen hundred and sixty-five, for State Senator and Assemblymen; but said statement does not include the votes of soldiers who cast their votes without the limits of the said State, as appears on record and the election returns, after a full, true, and perfect canvass and estimate of the same.

J. B. GREGORY,
Chairman of the Board of Supervisors of Amador County.

CERTIFICATE OF ADJUTANT-GENERAL.

ADJUTANT-GENERAL'S OFFICE,
Sacramento, December 9th, 1865. }

I certify that the following named persons are members of Company C, Seventh Regiment Infantry, California Volunteers, and that their names appear upon the electoral list for eighteen hundred and sixty-five, as belonging to said company, and stationed at Fort Mohave, Arizona Territory, in the order of the numbers attached. Their ages are set down in the muster roll, as shown herein, after each name on the original muster roll of the company, dated October twenty-seventh, eighteen hundred and sixty-four—that being the date of the organization of the company:

No.	Names.	Age.
19	James Angel.....	19
33	William P. Deardorff.....	16
38	Joseph Erhart.....	20
44	Gambatista Ghiradelli.....	19
48	Julius C. Harding.....	20
50	Robert R. James.....	17
53	William James.....	20
59	John Luttrell.....	18
67	Hiram B. Moon.....	17
76	Alfred Pharis.....	20
81	Etheridge W. Reed.....	20
83	Joseph F. Rickey.....	18
84	Jasper P. Roll.....	17
85	Joseph N. Roll.....	18
	[This name appears as Jos. M. Roll on original muster roll.]	
93	William H. Turner.....	18
95	William C. Voorhies.....	18

All of which appears from the records of this office.

ROBERT ROBINSON,
Adjutant-General of the State of California.

AFFIDAVIT OF HARVEY E. BABCOCK.

STATE OF CALIFORNIA, }
County of Amador. } ss.

Harvey E. Babcock, being duly sworn, says that he is the Notary Public before whom the testimony of the witness in the contested election case of A. C. Brown against Minor Frink, Jr., in the Legislature, and that on the — day of December, eighteen hundred and sixty-five,

the parties contestant were before him, and that while there the contestant A. C. Brown called, and the affiant, as such Notary Public, duly administered an oath to John Pharis, who upon oath, in presence of the parties, stated in substance the following facts: "I know Alfred A. Pharis; he is my son; he was born on the twenty-second day of November or December, eighteen hundred and forty-four. He was not twenty-one years old until after the election in September last. I kept a record of the age of my children. The record of the age of Alfred is destroyed. I kept them in the Bible. The Bible is not destroyed; only the record of Alfred's age. It was destroyed in this way: When Alfred wanted to join the soldiers, I told him he was not old enough—he was not twenty years old; but Jones told him that he was, and that it so appeared in the Bible; and I said he was not old enough, and that it did not appear so in the Bible. Alfred then tore the record of his age out, or Jones done it; it was done in the *fracas*. Alfred then said I was an old 'secesh,' and that he would not own me for a father. Jones and Alfred went off with Captain Cooledge's men. I do not know where he is now; the last time I heard from him he was with the soldiers at Fort Mojave."

And affiant further says that he sent said affidavit, together with the others taken before him, to the Chairman of the Committee on Elections in the Assembly of the State of California, as this affiant verily believes. He says that he has examined every place in his office where the said testimony might be found, or have been mislaid, but that he has been unable to find the same; that the fact that he cannot find said testimony makes this affiant believe that he forwarded the same to said Chairman.



Sworn and subscribed to before me, this tenth day of
January, eighteen hundred and sixty-six.
HARVEY E. BABCOCK,
Notary Public.

E. J. HALL, Clerk,
By J. A. ROBINSON, Deputy Clerk.

NOTICE TO CONTESTANT.

In the matter of A. C. Brown, contesting the seat of M. Frink, Jr., in the Assembly of the State of California, for the Sixteenth Session, from the County of Amador.

To A. C. BROWN, Esq., the above named contestant:

Please take notice, that I serve upon you the following list of persons who voted against me at the general election, held September the sixth, one thousand eight hundred and sixty-five, in and for Amador County, and who were not entitled to vote at said election, and whom I shall use as witnesses before the Commissioners appointed by the Assembly to take evidence in said contested case. I also furnish you with the

names of other witnesses than illegal voters, whose testimony I will also take before said Commissioners, as follows :

John Battiste; voted at both Jackson and Butte; naturalized December, one thousand eight hundred and sixty-five.

Edward Bernardi; naturalized December term, one thousand eight hundred and sixty-five.

Joseph Rotto; naturalized December term, one thousand eight hundred and sixty-five.

John Rotto; naturalized December term, one thousand eight hundred and sixty-five.

Louis Longtiero; naturalized December term, one thousand eight hundred and sixty-five.

Leytoni Roffo; naturalized December term, one thousand eight hundred and sixty-five.

Joseph Collier; naturalized December term, one thousand eight hundred and sixty-five.

Henry Champion; not a citizen.

John A. Clements; not a citizen.

Joseph Querollo; not a citizen.

Witnesses :

E. S. Hall,
J. A. Robinson,
Otto Wolther,
R. M. Briggs,
Henry Genocchio,
George Fisher,

J. N. Randolph,
E. B. Stiles,
Thomas Jones,
George Freeman,
E. G. Hunt.

AT BUTTE CITY PRECINCT.

Joseph La Frank; naturalized December term, one thousand eight hundred and sixty-five.

John Battiste; naturalized December term, one thousand eight hundred and sixty-five.

Peter Deviel; challenged at Jackson—voted at Butte.

Dominico Fregolio; challenged at Jackson—voted at Butte.

James Arelico; voted at Butte—not being challenged.

Gavoni Arrotto; voted at Butte—not being challenged.

V. B. Kellon.

Witnesses :

Isaac Trip,

W. Stickles.

AT CLINTON PRECINCT.

Bartole Lixi; naturalized December term, one thousand eight hundred and sixty-five.

Stephen Lagomazona; naturalized December term, one thousand eight hundred and sixty-five.

John Torre; naturalized December term, one thousand eight hundred and sixty-five.

John Quirolo } voted twice; Picen—nickname.
John Quirolo }

Joseph Quirolo } same person; Ponelin—nickname.
Joseph Quirolo }

John Sponra.

James Boyre.

Sebastrare Lagomarsina.

Charles Quirolo.

Stephen Lagomasini.

Antony Anetreotta.

Antony Castro.

Andrea Lovozzo.

Dominico Sorocco.

Joseph Sorocco.

Dominique Fregolio.

John Derelvecoli.

Vicengo Scirello.

Gaspero Ghigieri.

James Noce.

Joseph Kirnolero.

Joseph Orreta.

Antonio Arrotta.

Sebastian Layarmorino; naturalized December term, one thousand eight hundred and sixty-five.

Witnesses :

N. T. Littlefield,
B. S. Nichols,
James Stevenson,
F. H. Humphrey,
Nathaniel Whittemore,
H. Pitcher,

Andrew Barton,
John Justo,
C. Y. Hammond,
J. W. Paugh,
Hugh Robinson,
D. B. Spagnoli.

IRISH HILL PRECINCT.

William Turner; residence in San Joaquin County.

John P. Cecil; not of age; challenged at Ione; refused to take the oath.

James W. Walker; residence in Nevada; also under age.

John Usher; residence in San Joaquin County.

J. J. Marrey; residence in San Joaquin County.

Henrick Miller; not a citizen.

Witnesses :

J. J. Farnsworth,
Richard Bryant,
Robert Brown,
James Farrell,
James Johnson,
John M. Pear,
J. Wilson,
Patrick W. Quellon,
Patrick Powers,
J. F. Armstrong,
William C. Rafferty,

John McElevy,
H. B. Miner,
J. A. Janeson,
W. Hartigan,
John Fitzgerald,
John Cecil,
William T. Wilson,
John Leonard,
John W. Armstrong,
William Turner,
John P. Cecil,

J. W. Bird,
W. Mathews,
W. Beard,
Thomas P. Stewart,
Robert Ludgate,
William R. Johnson,
J. J. Murrey,
W. H. Fox,
Thomas Eagan,
E. B. Mussy,
Daniel Burns,
Samuel T. Pike,
James Begley,

James W. Walker,
John Usher,
M. Wilson,
Thomas Ferrys,
James Goodfellow,
James Byrnes,
H. J. Armstrong, Judge,
Patrick Gannon, Clerk,
J. N. F. Johnson,
D. Witchlatch, Judge,
W. H. Luther, Inspector,
James Tolan,
Henrick Miller.

IONE CITY PRECINCT.

T. B. Little; not a citizen, by admission to Jack Bird.
Andy Dell; resident of San Joaquin County, on Dry Creek.
August Shuler; vote challenged, by fraud of Charles Walker.
B. F. Waddell; resident of Sacramento County.
Casper Booshue; citizenship doubtful.
M. Laskell; went east with intention of remaining; not six months returned.
A. Francis; not a citizen.
J. Zinee; citizenship doubtful.
C. C. Prouty; doubtful about county line.

Witness:

Jack Bird.

TOWNSHIP NUMBER FIVE.

J. C. Whittle; voted straight Democratic.
— Chapmen; voted straight Democratic.
W. A. Woodworth.
D. V. Sierie; first papers.
John Queston.
— Davidson; pedler, Mokelumne Hill.
Michael Dynon; Lower Rancheria.
Morris Carey; Hooper's Lead.
James Flanagan; Pokeville.
N. King.
Charles Gray; Loyal Lead, Drytown.
John Trevis; Sutter, or Drytown.
Charles Boyle; Hooper's Mills.
L. Robolt; Sutter.
John Kelly; near Penn Quartz Mills.
J. H. Phillips; Oneida Mills.
Christian Showalter; Drytown.

All of which is respectfully submitted.

JACKSON, December 25th, 1865.

M. FRINK, JR.

CLERK'S CERTIFICATE.

OFFICE OF THE COUNTY CLERK OF HUMBOLDT COUNTY, }
November 11th, 1865.

To all whom it may concern:

I hereby certify that the majority of votes in this office for A. J. Huestis, over Solomon Cooper, for Assembly, is fifteen, as counted by the Board of Supervisors.

Witness my hand and the seal of office, the date above written.

JAMES M. SHORT,
County Clerk.

SEAL.

TESTIMONY.

DEPOSITION OF JOHN PHARIS.

STATE OF CALIFORNIA, }
County of Amador. } ss.

Testimony of John Pharis, a witness produced, sworn, and examined, on behalf of the contestant, before me, Harvey E. Babcock, a Notary Public in and for Amador County, by virtue of the stipulation filed herewith:

Q.—What is your name?

A.—My name is John Pharis.

Q.—Where do you reside, Mr. Pharis?

A.—I reside at Harmon's, near New York Ranch, in this county.

Q.—Do you know Alfred A. Pharis? and if so, state who he is?

A.—I do; he is my son.

Q.—Will you please state what his age is?

A.—He was born in the year eighteen hundred and forty-four—either the twenty-second of November or December.

Q.—Where is he now?

A.—That is more than I can tell; he left here to go with the soldiers.

Q.—What company did he go with?

A.—Company C, Seventh Regiment.

Q.—Do you know who was Captain of that company?

A.—No, I don't; nothing more than hearsay.

Q.—Who did you hear was Captain?

[Objected to as hearsay.]

A.—Coolidge.

Q.—Who told you?

[Objected to for same reason.]

A.—Alfred Pharis.

Q.—Where was he when you last heard of him?

A.—Fort Mohave.

CROSS EXAMINED.

Q.—Did you ever keep a record of the birth of your son, Alfred A. Pharis?

A.—Yes, Sir.

Q.—What was that record kept in?

A.—A large Bible.

Q.—Where is that Bible?

A.—Up here at Scott's.

[Respondent's counsel now objects to all this witness' testimony in regard to the age of his son, and he moves to strike it out, as the record evidence is the best evidence, and should be produced.]

RE-DIRECT.

Q.—Do you mean to say the record is in existence, or that the Bible is in existence?

[Objected to.]

A.—The Bible is in existence—the record is torn out.

Q.—Who tore it out?

[Objected to.]

A.—I couldn't answer that without I could explain the whole thing through.

Q.—Explain how it was torn out?

A.—A man named Jones wanted him to vote for Abe Lincoln, and he couldn't read writing very well, and Jones told him that he was old enough to vote, that he had seen his name in the Bible; and I told him he wasn't. Well, then they said I was secesh, and he wouldn't own me as a father, and got hold of the book, and tore out a part of the leaf that his name and age was on.

CROSS EXAMINED.

Q.—Mr. Pharis, what day was that—the day of the Presidential Election, or not?

A.—It was about two days before he joined the army.

Q.—Where did this take place?

A.—It took place upon the ranch that I bought of Charley Wright, beyond the New York Ranch.

Q.—Who was this Mr. Jones?

A.—Jones that joined the army with him, at the same time.

Q.—What age was he at that time? Jones said he had a right to vote, and you said he hadn't.

A.—The way I made the calculation he was nineteen.

Q.—Have you any means of knowing whether he was nineteen or twenty at that time?

A.—I cast it up in my own mind. I hadn't anything urgent to be particular about it.

Q.—Did your son, Alfred Pharis, at any time have access to this Bible?

A.—It laid in the house there for anybody who wished to look at it.

Q.—Was he living with you at that time?

A.—Yes, Sir; and for two days after.

Q.—Was your son, Alfred Pharis, a truthful young man?

[Objected to as irrelevant.]

A.—As far as he knowed, I believe he was.

Q.—Now, do you state that your son couldn't read writing at all at that time?

A.—To the best of my knowledge, I don't think he could.

Q.—Did your son ever work for Samuel Smith; and if so, how long before he joined his company?

A.—Yes, he worked for him.

Q.—How long before he joined the army did he quit working for Smith?

A.—He quit working for Sam Smith the summer of eighteen hundred and sixty-two.

Q.—For whom did he last work, before he returned to your house?

[Objected to as irrelevant.]

A.—Sam Smith.

Q.—How long had he resided with you before he joined the army?

A.—From the fall of eighteen hundred and sixty-two.

RE-DIRECT.

Q.—What State are you from?

A.—Ohio.

JOHN PHARIS.

DEPOSITION OF H. PITCHER.

STATE OF CALIFORNIA,
County of Amador. } ss.

A. C. Brown, Contestant v. Miner Frink, Jr., Respondent.

Deposition of H. Pitcher, a witness produced, sworn, and examined before me, Harvey E. Babcock, a Notary Public in and for Amador County, December twenty-ninth, eighteen hundred and sixty-five, by virtue of the stipulation herewith filed:

Q.—Where do you reside?

A.—At Clinton.

Q.—How long have you resided in Amador County?

A.—Since July, eighteen hundred and fifty-eight, with the exception of a part of one year—about eight months.

Q.—How long had you resided continuously in Amador County previous to the last September election?

A.—Since a year ago last June, I came back.

Q.—Were you a legal voter in Amador County on the sixth of September last?

A.—Yes, Sir.

Q.—Were you, on the sixth of September last, over the age of twenty-one years?

A.—Yes, Sir.

Q.—Are you a native born or naturalized citizen?

A.—Native.

Q.—Did you vote at the last September election in Amador County.

A.—Yes, Sir.

Q.—At what precinct?

A.—At Clinton.

Q.—Did you vote for candidates for the Assembly for this county at that election?

A.—I did.

Q.—Name any candidate or candidates that you voted for that day for the Assembly?

A.—I voted for Mr. Frink.

Q.—For the Assembly?

A.—Yes, Sir.

Q.—Were you about the polls to any extent on the day of the election?

A.—I was there from about two o'clock P. M. until the polls closed, most of the time.

Q.—What class of men formed the mass of those who voted at that precinct that day?

A.—I should think the greater portion were Italians.

Q.—Do you know of any person who voted there who, to the best of your knowledge, was under age?

A.—I do not.

H. PITCHER.

DEPOSITION OF R. M. BRIGGS.

STATE OF CALIFORNIA,
County of Amador. } ss.

A. C. Brown, Contestant v. Miner Frink, Jr., Respondent.

Deposition of R. M. Briggs, a witness produced, sworn, and examined before me, Harvey E. Babcock, a Notary Public within and for Amador County, January second, A. D. eighteen hundred and sixty-six, by virtue of the stipulation herewith filed:

Q.—Are you a resident of Jackson?

A.—Yes, Sir; Amador County.

Q.—What is your business?

A.—I am an attorney; my office, District Attorney of the county.

Q.—Were you a candidate for re-election at the September election?

A.—I was.

Q.—Can you state the number of votes you received?

A.—On the home vote, I received one thousand two hundred and sixty-three; some seventy soldier votes outside of that.

Q.—On what ticket did you run?

A.—On the Union ticket.

Q.—Any other person running against you for the same office?

A.—John A. Eagon run against me for the same office.

Q.—Can you tell how many votes he received?

A.—There were counted for him by the Supervisors, one thousand two hundred and seventy-three, home vote. On the opening of the Clinton vote, by the Board of Canvassers, I filed a written objection to its being received. First—upon the ground that there was not a full Board of Judges and Clerks; that D. B. Spagnolia, who had been appointed Judge by the Supervisors, acted as Clerk, and signed the returns both as Judge and Clerk; that Spagnolia was an Italian, and understood the language of most of the persons who voted there that day; that I charged before said Board of Supervisors as a reason why it should be thrown out, that

he had fraudulently ceased to act as Judge, and acted as Clerk, to avoid his duty of challenging those who did not understand our language, which he did, as to the right to vote at that election. Second—that the number of votes in the return list was in figures, and not written in full length, as required by law; that is, the number of votes cast for each candidate was not written in words, as required by law, but were put down in figures.

Q.—Did any of the Supervisors protest?

A.—There was at that time but two Supervisors present; one was for throwing it out, as I understood, and the other not; when the third Supervisor came upon the Board it was counted. The Supervisors, on the incoming of the soldiers' vote, issued to me a certificate of election as District Attorney; suit was brought against me to annul the certificate issued to me by the Board; I then commenced hunting up illegal votes; my investigations extended only to Numbers One, Two, and Five of the six townships; I can only now speak from information and belief. In the three townships that I investigated I found the names of from seventy-five to eighty-two persons that voted at the September election, who, to the best of my knowledge and belief, were not entitled to vote thereat. I do not know for whom or what ticket they voted, but, from a careful inquiry of persons who knew them, to the best of my knowledge, information and belief, derived from inquiry, they voted against the Union ticket. I made inquiries at Clinton—spent a day there; I found upon the poll list of that precinct the names of Joseph Querello and John Querello, and of Joseph Querello Picin, or Ponelin—I am not sure now which, without I had it before me—and of John Querello, either Picin or Ponelin, I don't recollect now which. I was informed by an Italian, which is information merely, who spoke English very well, that Picin and Ponelin were nicknames; of my own knowledge I know not whether it is so or not; I was investigating for myself at that time. I received a letter a day or two ago from Upper Rancheria, which is now on my desk, stating to me that at the September election an Italian had sworn his vote in there, and voted the Democratic ticket; that he offered to vote at the last Senatorial election and was challenged. On being challenged he exhibited his naturalization papers; his papers bore date the eleventh of December, eighteen hundred and sixty-five; the object of the letter was that I should bring him before the grand jury; the only trouble was, the writer failed to give me the name; but I was speaking to a man to-day who told me he would send me the name on the same proposition. In preparing my own defence of all the names of those who, to the best of my information, were illegal voters, I cannot say how any of those persons voted, except from information and belief. I have stated the number from seventy-five to eighty-two.

Q.—Has the prosecution been abandoned which was commenced against you to annul your election?

A.—So the records of the Court show.

Q.—Can you state upon what ground it was abandoned?

A.—Simply stated—for the want of prosecution.

Q.—Was judgment rendered on behalf of defendant in your favor?

[Objected to as secondary evidence.]

A.—Judgment was rendered in my favor.

[Contestant objects to the evidence of Mr. Briggs, as an interested witness, in stating his whole case before this commission, and using his official authority to intimidate witnesses before this commission.]

CROSS EXAMINED.

Q.—Are you Mr. Frink's attorney, Mr. Briggs?

A.—I have been, up until to-day.

Q.—Do you expect to argue the case before the Legislature?

A.—I do not; I think this Court will hold until it is over.

Q.—The investigation that you speak of in your direct examination, was for the purpose of your own case, was it not?

A.—Yes, Sir, for my own defence, to show that I had received a majority of the legal votes of this county, outside of the soldiers' vote.

Q.—If you could?

A.—If I could.

R. M. BRIGGS.

DEPOSITION OF BARTOLOMEO LIXI.

STATE OF CALIFORNIA, } ss.
County of Amador. }

A. C. Brown, Contestant v. Miner Frink, Jr., Respondent.

Deposition of Bartolomeo Lixi, a witness produced, sworn, and examined before me, Harvey E. Babcock, a Notary Public within and for Amador County, by virtue of the stipulation herewith filed:

Q.—Where do you live?

A.—Near Clinton?

Q.—What county?

A.—County of Amador.

Q.—Did you ever obtain your naturalization papers to become a citizen of the United States? When did you obtain them, and where?

A.—I took my first papers in eighteen hundred and forty-three or eighteen hundred and forty-four, in New York City.

Q.—Did you ever take out your second papers?

A.—I took out my second papers either in eighteen hundred and forty-seven or eighteen hundred and forty-eight, in New York; I can't exactly recollect when.

Q.—What became of your second papers that you took out?

A.—I lost my papers in Clinton, having had my cabin burned. Every one that knew me around there would be a witness.

Q.—Are you the Bartolomeo Lixi who took out your second papers again in this Court in December last?

A.—Yes, Sir.

Q.—Did you vote at the last September election, at Clinton Precinct, in this county?

A.—I did.

Q.—How many papers did you get in New York?

A.—Two. I went and got my first papers in eighteen hundred and forty-three or eighteen hundred and forty-four, and my second papers in eighteen hundred and forty-seven or eighteen hundred and forty-eight.

BARTOLOMEO LIXI.

AFFIDAVIT OF JOHN PHARIS.

STATE OF CALIFORNIA,
County of Amador. } ss.

A. C. Brown, Contestant v. Miner Frink, Jr., Respondent.

John Pharis, being duly sworn, says that he knows Alfred Pharis, and that said Alfred is his son, born with him in lawful wedlock in the State of Ohio, and according to the best recollection and belief, on the twenty-second day of December, eighteen hundred and forty-four; and that said Alfred was not twenty-one years of age until the twenty-second day of December, eighteen hundred and sixty-five. And affiant says said Alfred enlisted as a soldier in Company C of the Seventh Regiment of California Volunteers, and that he enlisted at the Town of Jackson, in said County of Amador, as above stated, on or about the twenty-seventh day of October, eighteen hundred and sixty-four.

JOHN PHARIS.

Sworn and subscribed to before me, this eleventh day of December, eighteen hundred and sixty-five.

E. G. HUNT, Notary Public.

SEAL.

DEPOSITION OF J. M. HUMPHREY.

STATE OF CALIFORNIA,
County of Amador. } ss.

A. C. Brown, Contestant v. Miner Frink, Jr., Respondent.

Deposition of J. M. Humphrey, a witness produced, sworn, and examined before me, Harvey E. Babcock, a Notary Public, December twenty-ninth, eighteen hundred and sixty-five, by virtue of the stipulation herewith filed:

Q.—On the sixth day of September, A. D. eighteen hundred and sixty-five, were you a legal voter?

A.—Yes, Sir.

Q.—Did you vote at the election held upon that day?

A.—Yes, Sir.

Q.—Where did you vote?

A.—At the Town of Clinton, this county.

Q.—Did you vote at that election for members of the Legislature?

A.—Yes, Sir.

Q.—Please name the persons you voted for for members of the Legislature?

A.—I voted for Mr. Frink, Mr. Thornton, and Mr. Burnell, the regular Union ticket.

Q.—State if you were Inspector of Election for that precinct?

A.—Yes, Sir.

Q.—Will you be kind enough to look at this list, and see if that is the tally list—if that is your signature?

A.—That is my signature. I have a tally list like that.

Q.—Please state if that is the number of votes cast for Miner Frink there?

A.—Yes, Sir; he received six votes.

Q.—Who were the Judges of Election that day?

A.—An old gentleman by the name of Anderson, I believe, was one, and an Italian, D. B. Spagnolia, was another.

Q.—Who were the Clerks of the Election?

A.—A man by the name of M. Carrol was one, and D. B. Spagnolia—the same person who acted as Judge—was the other.

Q.—In what particular capacity did this Spagnolia act through the day?

Q.—He acted as Judge, Clerk, and sometimes acted as interpreter. When I would ask the Italians questions, he would tell me the true meaning in English.

Q.—What class of persons were they generally that voted that day?

A.—Italians; there might have been a few Austrians. There were not over a dozen Americans that I recognized.

Q.—State about the number of Italians that understood the English language?

A.—All I know about it is what I heard while they were standing at the window, and I should not think there was over half a dozen.

Q.—Did Spagnolia understand the Italian language?

A.—Yes, Sir.

Q.—Did he, as Judge, challenge any of those Italians who came to vote?

A.—There was no challenges through the whole day, Sir.

Q.—Do you know of any other persons that voted for Mr. Frink at that precinct that day?

A.—No, Sir.

J. M. HUMPHREY.

[A. C. Brown, the contestant, not being present at the examination of this witness, J. W. Armstrong, the contestant's attorney, came in before the testimony was closed, and stated that he objected to the testimony of this witness, because his name was not on the list furnished contestant.]

DEPOSITION OF C. C. PROUTY.

STATE OF CALIFORNIA,
County of Amador. } ss.

A. C. Brown, Contestant v. Miner Frink, Jr., Respondent.

C. C. Prouty, being duly sworn, deposes and says:

Q.—Where do you reside?

A.—In this county.

Q.—Are you acquainted with William Turner?

A.—Yes, Sir.

Q.—Were you acquainted with him about the sixth of September last?

A.—Yes, Sir; I was.

Q.—Where did he reside, and where had he been residing up to and on the sixth of September last?

A.—He had been at work for me but a short time before that, and was at work for Perky about that time—as near as I can recollect.

Q.—Do you know how long he had been residing at Mr. Perky's up to the sixth of September, before the election?

A.—I do not know exactly the time.

Q.—State, as near as you can, how long—as near as you can recollect—he had resided there previous to the election?

A.—Between two and three weeks, as near as I can recollect.

Q.—In what county was Mr. Perky at that time residing?

A.—San Joaquin County.

Q.—State, if you know, whether Mr. William Turner voted in Amador County at the September election?

A.—I believe I heard him say he voted.

[Objected to as hearsay.]

Q.—Did you hear him say so?

A.—To the best of my recollection, I did.

Q.—Did he state to you what precinct he voted at?

A.—He did, to the best of my recollection.

Q.—State the precinct that he named as having voted at?

A.—Irish Hill.

Q.—Have you ever been at Irish Hill?

A.—Yes, Sir.

Q.—What County is Irish Hill in?

A.—Amador County.

Q.—Did he make any statement to you as to what party ticket he voted?

[Question objected to, upon the ground that it is hearsay evidence, and secondary.]

A.—He did.

Q.—State for which party—Union or Democratic—he said he voted?

A.—Democratic.

Q.—Did he name any particular persons running for office for whom he voted that day?

A.—He did not.

CROSS EXAMINED.

Q.—How long had Mr. Turner been at work for you before he went to Perky's?

A.—About two months, I believe.

Q.—Where had Mr. Turner formerly resided before he worked for you?

A.—I could not tell you where he did make his home before that; he came there as a stranger.

Q.—You don't know, then, of your own knowledge, but what he had been a resident of some portion of Amador County for a long time before he commenced work for you?

A.—No, Sir.

Q.—You answer, in your direct examination, that he had been at work for Mr. Perky between two and three weeks before the election.

Please fix the exact time that he had been at work there, Mr. Prouty, before the election?

A.—About fifteen days.

RE-DIRECT.

Q.—How long have you known this Mr. Turner?

A.—I never knew him until he came there to work; he worked for my brother-in-law a short time before he worked for me.

Q.—State how many months you had known him up to the election in September?

A.—About three months.

Q.—Did he ever state to you where he came from?

[Objected to, as irrelevant, and hearsay.]

A.—He did. He said he had been living the other side of the Mokelumne. Before that, for several years, he had lived near Sonora and Copperopolis, in this State.

C. C. PROUTY.

DEPOSITION OF B. SANGUINETTI.

STATE OF CALIFORNIA, }
County of Amador. } ss.

A. C. Brown, Contestant v. Miner Frink, Jr., Respondent.

Deposition of B. Sanguinetti, a witness produced, sworn, and examined on behalf of Brown, before me, Harvey E. Babcock, a Notary Public within and for Amador County, this thirtieth day of December, A. D. eighteen hundred and sixty-five, by virtue of stipulation herewith filed:

Q.—Are you acquainted with any persons in this county by the name of Joseph Querollo? and if so, how many, and where do they reside?

[Objected to as irrelevant.]

A.—I am acquainted with two of them, sure, by the name of Joseph—say three of the same name. One lives in Jackson, and two I know live upon the South Fork of Jackson Creek, on the Sacrita Ranch.

Q.—How many persons by the name of John Querollo do you know in Amador County?

A.—About three years ago I knew three. Two lived on the South Fork; one, I don't know where he is; he might be in the county, and it might be he aint.

Q.—How many do you know in the county, or did you ever know in the county, by the name of John Querollo?

A.—Two now.

Q.—Where do they live?

A.—On the South Fork. One lives about three quarters of a mile below Clinton, the other about a mile.

Q.—Do you know any other Querollos than those you have testified about, in the county, of any other name?

A.—Yes, Sir, I know five of them.

CROSS EXAMINED.

Q.—How long since you knew these three Querollos you speak of two living on the South Fork, one somewhere else?

A.—I knew one since eighteen hundred and fifty-five, one since eighteen hundred and fifty-six, and one since eighteen hundred and fifty-six or eighteen hundred and fifty-seven. They are named Joseph.

Q.—When did you see them last before the September election?

A.—At my store in Jackson; it might have been in July; it might have been in August. One I see often; the others I don't see so often, as they take the grub up there in a wagon.

Q.—What is the Italian name for John?

A.—Giovanni.

Q.—What is the name in Italian for Joseph?

A.—Giuseppi.

Q.—What is Bartolomo in English?

A.—Bartholomew, or Bartholomo.

Q.—You spoke a while ago of one of the Querollos that you had not seen for some time?

A.—Yes, one John Querollo. I have not seen him for some time. He might be around the county.

Q.—How long since you saw him?

A.—I think it is something over a year; I saw him at the store; he was going to Sutter; I have not seen him since that time.

B. SANGUINETTI.

DEPOSITION OF JOHN RATTO.

STATE OF CALIFORNIA, } ss.
County of Amador.

A. C. Brown, Contestant v. Miner Frink, Jr., Respondent.

Deposition of John Ratto, a witness produced, sworn, and examined on behalf of contestant, before me, Harvey E. Babcock, a Notary Public within and for Amador County, this thirtieth day of December, A. D. eighteen hundred and sixty-five, by virtue of the stipulation herewith filed:

Q.—Where do you reside, Mr. Ratto?

A.—I live here now, in Jackson.

Q.—How many persons by the name of Querollo do you know in the county?

A.—I used to know a good many of them—nine or ten when I used to live here.

Q.—How many do you know in the county now?

A.—I know about eight, I am sure.

Q.—How many do you know by the name of John Querollo?

A.—I know three.

Q.—What is the Italian for John?

A.—Giovanni; that is the way I always understood it.

Q.—Do you speak the Italian language?

A.—I do.

Q.—Do you know any persons by the name of Joseph Querollo?

A.—Yes, Sir.

Q.—How many?

A.—Well, I think I know two; I know one certain; the other, I think his name is Joseph, but I can't say exactly—positive.

Q.—Where do these Querollos you have been speaking of reside—whereabouts in the county?

A.—Some in town here; the most of them on Jackson Creek; some at what they call Spanish Bar, or Mexican Bar.

JOHN RATTO.

DEPOSITION OF B. S. NICHOLS.

STATE OF CALIFORNIA, } ss.
County of Amador.

C. Brown, Contestant v. Miner Frink, Jr., Respondent.

Deposition of B. S. Nichols, a witness produced, sworn, and examined before me, Harvey E. Babcock, a Notary Public in and for Amador County, the twenty-ninth day of December, A. D. eighteen hundred and sixty-five, by virtue of the stipulation herewith filed:

—Were you a legal voter within Amador County on the sixth day last September?

—Yes, Sir.

—Did you vote upon that day for candidates for the State Assembly?

—I did.

—At what precinct did you vote?

—Clinton Precinct.

—For what candidates for the Assembly did you vote on that day?

—I voted for Mr. Frink, and Mr. Burnell, and the other gentleman, I don't recollect his name, as he was a stranger to me; but I voted the Union ticket; did not scratch any.

—Are you a native born or naturalized citizen?

—Native born.

—Were you about the polls during the day, Mr. Nichols?

—No, Sir, I was not. I voted in the early part of the day, and was there afterwards during the day.

—State, if you please, whether you had been appointed as Inspector of the Judges, by the Board of Supervisors, for that precinct, that

—I was notified that I was appointed, but it was inconvenient for me to serve, and I got excused.

—State if there were any particular reasons why you wished to be excused?

—No particular reason, only that I was tending mill, and had several things to do there, and it was not convenient for me to spend the day there.

CROSS EXAMINED.

Q.—How long had you resided in the county prior to the election?

A.—About six months.

Q.—Is your family here?

A.—Yes, Sir.

Q.—Where did you come from when you came to this county?

A.—Sacramento.

Q.—Had Sacramento been hitherto your home?

A.—Yes, Sir; I had been in Sacramento most of the time since eighteen hundred and fifty-two.

Q.—When you came to this county, did you not intend to only temporarily remain?

A.—That depended upon circumstances. My intentions were to remain. I came up here with my family; built a quartz mill, etc.

B. S. NICHOLS.

DEPOSITION OF MINER FRINK.

STATE OF CALIFORNIA, }
County of Amador. } ss.

A. C. Brown, Contestant v. Miner Frink, Jr., Respondent.

Deposition of Miner Frink, sworn and examined before me, Harvey E. Babcock, a Notary Public within and for Amador County.

[Objected to, as his name is not on the list nor stipulation signed by both parties, and which they agreed to abide by.]

I subpoenaed D. B. Spagnoli as a witness before Harvey E. Babcock, to appear before him as a commissioner to take testimony in the case of A. C. Brown, contestant, against M. Frink, respondent, on Friday, at ten o'clock A. M., on the twenty-ninth of December. He came from Clinton to Jackson; remained here until in the afternoon. I asked him to give his testimony in the case, and he refused to do it.

Q.—How did you have him subpoenaed, Mr. Frink?

A.—By a subpoena made out by Harvey E. Babcock.

Q.—Who subpoenaed him?

A.—I did.

Q.—Did you tender him his fees?

A.—No, he did not ask for them.

Q.—What reason did he assign to you for his refusal to testify?

A.—I cannot well state the language.

Q.—Do you know, then, that he did refuse to testify?

A.—Yes; I went to him personally and urged him to come before the Commissioner. His general reason for not testifying, from what I could understand, seemed to be, that he didn't know anything to testify.

Q.—Have you not had an opportunity to-day to examine him as to all the points upon which you wished to examine him?

A.—All I know is what I've stated. I have not spoken with him to-day.

Q.—Has not Mr. Spagnoli been on the stand here to-day, and you have had an opportunity of cross examining him, and you refused to do it?

A.—My answer to your frivolous question is that he has.

Q.—Did you not refuse to cross examine him?
A.—I did cross examine him so far as I wished.

M. FRINK, JR.

DEPOSITION OF JAMES STEVENSON.

STATE OF CALIFORNIA, }
County of Amador. } ss.

A. C. Brown, Contestant v. Miner Frink, Jr., Respondent.

Deposition of James Stevenson, a witness produced, sworn, and examined before me, Harvey E. Babcock, a Notary Public in and for Amador County, on the twenty-ninth day of December, A. D. eighteen hundred and sixty-five, by virtue of the stipulation herewith filed:

Q.—Were you a legal voter in Amador County on the sixth of September last?

A.—Yes, Sir; I so considered myself.

Q.—Are you a native born or naturalized citizen, and over the age of twenty-one years?

A.—Native born, and over the age of twenty-one.

Q.—Did you vote at the last September election in the County of Amador, for members of the Assembly?

A.—Yes, Sir.

Q.—Where?

A.—Clinton.

Q.—For whom did you vote at that election for members of the Assembly?

A.—My impression is vivid that I voted for Burnell, Miner Frink, and Charley Ingalls, and that I voted a straight Union ticket, and did not scratch it any.

Q.—Were you about the polls during the day?

A.—Only in the morning at the opening of the polls, and until, probably, nine o'clock. I exerted myself to get it organized, as the officers were backward in getting there.

Q.—Do you know of any other persons who voted for Miner Frink that day, at that precinct?

A.—Only by hearsay or report; not of my own knowledge.

Q.—Did you hear any particular persons say they had voted for him, Frink?

[Objected to as hearsay.]

A.—I can't say that I heard any particular persons say they voted for Mr. Frink, but I heard seven or eight persons say, and heard of them saying, that they voted the Union ticket.

JAMES STEVENSON.

DEPOSITION OF NATHANIEL WHITTEMORE.

STATE OF CALIFORNIA, }
County of Amador. } ss.

A. C. Brown, Contestant v. Miner Frink, Jr., Respondent.

Deposition of Nathaniel Whittemore, a witness produced, sworn, and examined before me, Harvey E. Babcock, a Notary Public within and for Amador County, California, taken by virtue of the stipulation here-with filed:

Q.—How long had you resided in Amador County prior to the September election?

A.—Not quite eight years, but close to it.

Q.—Were you a legal voter on the sixth of September last?

A.—Yes, Sir.

Q.—Native born, or naturalized?

A.—Native born.

Q.—Did you vote in Amador County at the last September election?

A.—Yes, Sir.

Q.—At what precinct.

A.—Clinton.

Q.—Did you vote for candidates for the Assembly?

A.—Yes, Sir.

Q.—Name any one candidate that you voted for for member of the Assembly?

A.—I voted the straight Union ticket, with the exception of Hugh Robinson, who was the only State or county officer I scratched. I voted for Mr. Frink.

Q.—Were you about the polls at any length of time during the day?

A.—About an hour only—it may have been longer than that—in the afternoon.

Q.—What class of persons voted there that day?

A.—A great many Italians voted there that day; I saw a greater number of them than anybody else there.

Q.—Did you take a very active part in the election that day?

A.—Not very; it was probably two o'clock before I got there.

Q.—Is your memory very distinct that Mr. Frink was on the ticket?

A.—Yes, Sir.

Q.—Were you ever acquainted with him before the election?

A.—No, Sir.

Q.—How came you to recollect that his name was on the ticket that you voted?

A.—If I had scratched it off I should have remembered it.

Q.—How many different tickets did you see there that day?

A.—I saw the Union ticket and Democratic ticket.

Q.—How many Democratic tickets?

A.—I saw but one.

Q.—How many names can you point out that were on the ticket that you say you voted? Name them.

[Objected to, as not responsive to examination in chief.]

A.—Burnell was one, and Miner Frink, Thornton. Hugh Robinson was

the man I scratched off, and put on Lyering in his place. Charley Ingalls I scratched, and put on Carroll. That is all I can remember.

Q.—When was the first time you were introduced to Mr. Frink?

A.—It must have been yesterday. I have known the gentleman by sight, but never have been introduced to him. Have seen him in Jackson.

Q.—Do you recollect the fact of your voting for Mr. Frink from his name being on the ticket that you voted, or from conversations since?

A.—I recollect his name being on the ticket distinctly.

N. WHITTEMORE.

DEPOSITION OF EDWARD MULDOON.

STATE OF CALIFORNIA, }
County of Amador. } ss.

A. C. Brown, Contestant v. Miner Frink, Jr., Respondent.

Testimony of Edward Muldoon, a witness produced, sworn, and examined on behalf of the contestant, before me, Harvey E. Babcock, a Notary Public in and for Amador County, by virtue of the stipulation filed here-with:

Q.—State if you know Patrick Muldoon?

A.—I know him, Sir, since I ever knew any person.

Q.—If you know where he was born, please state?

A.—Ireland.

Q.—State whether he ever emigrated to the United States?

A.—Yes, Sir; he emigrated in eighteen hundred and fifty-one.

Q.—What is his age?

A.—I couldn't exactly tell his age, but it is somewhere near thirty-two years; him and I are near of the same age, and that is my age.

Q.—Do you know where he is now?

A.—Not exactly. I had a letter from him; he was then at Fort Mohave, in Arizona Territory.

Q.—About what time did you receive that letter?

A.—Indeed, I couldn't exactly tell; I believe it was a couple of months ago, at least.

Q.—Do you know what he was doing there?

A.—A volunteer in the United States army.

Q.—Do you know when and where he volunteered, and if so, state?

A.—Jackson, Amador County. I could not exactly remember the time—the time Company C was raised in Jackson. Captain Cooledge was the Captain.

Q.—Please state whether Patrick Muldoon is related to you?

A.—Yes, Sir; we are first cousins.

Q.—Do you know whether he is a citizen of the United States, and if so, state?

[Objected to; first, it is impossible for witness to know all the acts of Patrick Muldoon—that not having seen Patrick Muldoon for over one year, it is impossible for witness to state whether he is a citizen or not.]

A.—I do not know; I will give particulars, if necessary. I know that in the City of Philadelphia he never took out papers, and whether he

took them out in California or not, I don't know; but at the last Presidential election, I doubted his being a citizen, and I challenged his vote at the polls, and he refused to vote—would not take the oath.

Q.—What did he say to you afterwards, after you had challenged his vote?

[Objected to as hearsay.]

A.—He took me to one side and said I ought not to have challenged his vote—he showed me his ticket—that he was going to vote the same ticket I did.

Q.—Had he enlisted in Company C at that time?

A.—Yes, Sir.

Q.—Where was the company encamped?

A.—Out here at the Pavilion, near Jackson.

Q.—What is your belief about his being a citizen?

[Objected to as irrelevant and inadmissible.]

A.—Well, I believe he is not a citizen, if he hain't become one since he left Jackson.

Q.—What was the ground upon which you challenged his vote?

A.—Because I believed he was not a citizen. He worked occasionally for me before the election, and we often had a talk about the election, and I told him if he would vote, I should challenge his vote.

CROSS EXAMINED.

Q.—When did Patrick Muldoon come to California?

A.—I believe, Sir, in eighteen hundred and fifty-six.

Q.—Had he resided in any other counties since eighteen hundred and fifty-six, besides Amador County?

A.—I don't know.

Q.—How long do you know him to have resided in Amador County?

A.—I came here in eighteen hundred and sixty-three; he was residing here then, and lived here until he went with the soldiers, except three or four months he stopped in Sacramento.

Q.—From the time when he came to California, in eighteen hundred and fifty-six, did you meet him anywhere until you met him in Jackson, in eighteen hundred and sixty-three?

A.—I met him once in the City of Philadelphia; he went home again.

Q.—Then, from eighteen hundred and fifty-six until eighteen hundred and sixty-three, do you know what part of California he did reside in?

A.—He always had his address, Jackson, Amador County.

Q.—How often were you in the habit of receiving letters from him while you were in Philadelphia?

A.—I never received any from him; I was in the habit of seeing his letters that came to his father.

Q.—When did he emigrate from Ireland?

A.—In eighteen hundred and fifty-one.

Q.—Did his father emigrate at the same time?

A.—No, Sir; I don't know exactly when his father emigrated; sometime before he did.

Q.—Do you know whether his father ever became a citizen of the United States?

A.—Yes, sir.

Q.—Give as near about the age of Patrick Muldoon now as you can?

A.—Somewhere about the age of thirty-two.

Q.—How long after the last Presidential election did the company of which Patrick Muldoon was a member, leave Jackson?

A.—I believe the Monday after.

Q.—Have you ever seen Patrick Muldoon since?

A.—No, Sir.

Q.—Do you know anything of his acts since then?

A.—Well, I had three letters from him.

Q.—I mean, do you know anything of his acts in regard to becoming a citizen?

A.—No, Sir.

RE-DIRECT.

Q.—When and where was Patrick Muldoon's father naturalized?

A.—In the City of Philadelphia, Pennsylvania, about eighteen hundred and fifty-seven.

Q.—Was that after Patrick had come to California?

A.—Yes, Sir.

EDWARD MULDOON.

DEPOSITION OF DOMINGO CABALLERO.

STATE OF CALIFORNIA, } ss.
County of Amador. }

A. C. Brown, Contestant v. Miner Frink, Jr., Respondent.

Domingo Caballero, a witness produced, sworn, and examined through Rocco Antipo, who was sworn as an interpreter, before the undersigned, a Notary Public in and for Amador County, by virtue of stipulation filed herewith; Rocco Antipo was by me sworn as interpreter:

Q.—Do you know Ramon Molina?

A.—Yes, Sir.

Q.—Do you know where Ramon Molina went?

A.—I don't know. He has gone for a soldier.

Q.—How long since he went as a soldier?

A.—He went off after the Presidential election, with the last soldiers.

Q.—Where did Ramon Molina live before he went away?

A.—In my house.

Q.—What countryman was he?

A.—Mexican.

Q.—Was Ramon Molina a citizen of the United States?

[Objected to as an unanswerable question, and a legal conclusion.]

A.—Ramon told me he was no citizen—that he had no papers.

[Objected to as hearsay.]

Q.—How long did Ramon live with you before he went away?

A.—About two months.

Q.—Did you vote at the general election in last September?

A.—Yes, Sir.

Q.—What ticket did you vote?

A.—The Union ticket.

Q.—Was Miner Frink, Jr.'s name on that ticket?

A.—I can't answer. I don't know whether the name Frink was on or not. I have got plenty of the tickets left.

Q.—Did you vote at the election held on the twenty-third day of this month?

A.—No, Sir; they challenged my vote.

Q.—Have you ever taken out your last papers?

[Witness was here informed by R. M. Briggs, counsel for Frink, and District Attorney for Amador County, that he was not bound to answer any question which would tend to criminate himself; that if he was not a legal voter at the September election, and voted, he is liable to a criminal prosecution, and I will prosecute him. He can answer the question if he likes.]

A.—No, Sir.

Q.—Where were you born?

A.—In Chili.

Q.—How long have you been in California?

A.—Since the nineteenth of March, eighteen hundred and forty-nine.

Q.—Had your vote ever been challenged before the election of the twenty-third?

A.—I never was present at an election, except the September election and the last election.

Q.—Do you mean that you never were present at an election, or never was challenged before?

A.—I mean that before the September election I never was challenged; I always voted.

CROSS EXAMINED.

Q.—Did any person ask you to come here to-day and testify?

A.—No, Sir; that gentleman called to him, and said to me to come up.

Q.—Did that gentleman, whoever it was, tell you what he wanted of you?

A.—He told me to come here to swear.

Q.—Did they tell you to come here and swear that you were not a legal voter?

A.—No; he no tell me anything about it.

Q.—Do you understand the term illegal voter?

A.—He no tell me anything about the voter.

Q.—Did they promise to pay you anything for coming up here?

A.—Nobody ever promised me money, and I never sell myself for money.

Q.—Did anybody else talk to you about coming up here to testify except Mr. Turk?

A.—No, Sir; nobody else.

Q.—Did Mr. Turk tell you that there was a contest between Mr. Brown and Mr. Frink for a seat in the Legislature?

A.—No, Sir.

Q.—What do you mean by not getting out second papers?

A.—Because I think myself a right voter without second papers.

Q.—Did you ever get any papers at all from any Court?

A.—In eighteen hundred and fifty-one I got my first papers.

Q.—Where are those papers now?

A.—They were burned in the fire in San Francisco.

Q.—Did you ever go before a Court at any other time after eighteen hundred and fifty-one, in regard to being a citizen?

A.—No, Sir.

Q.—How long did you know this Ramon from the time you first became acquainted with him until he went with the soldiers?

A.—About two years.

Q.—Do you know where Ramon was born?

A.—I know he is a Mexican—in Mexico, somewhere.

Q.—Do you know whether persons living in California, or born here before the annexation, were called Mexicans or not?

A.—Those born in California must be native Californians.

Q.—Do you know of your own knowledge whether Ramon was born in Mexico or California?

A.—I have heard from others that he was born in Hermosillo, Sonora.

Q.—Do you know when Ramon came to California?

A.—I don't know.

Q.—Do you know anything about Ramon since he left here with the soldiers, of his doings, or anything else?

A.—I don't know anything about it.

Q.—Can you read English print?

A.—No, Sir; some things I can pick out.

Q.—On the day of the September election, did any one ask you to vote?

A.—A good many asked me to vote.

Q.—Who asked you to vote just before you did vote?

A.—I don't recollect; a good many asked me to vote.

Q.—Were you a citizen of the United States on the sixth day of September, eighteen hundred and sixty-five, when you voted in Jackson?

A.—I considered myself a citizen from the first papers I got in San Francisco.

Q.—Where did you get these tickets you have exhibited?

A.—Some I took in the Post Office, some in Brumel's saloon, and took them to my house.

Q.—Have you had any of these papers given to you to-day?

A.—Nobody gave me any tickets. I have got plenty in my house from the last election.

RE-DIRECT.

Q.—Did I give you any tickets at the September election?

A.—I came into the house, saw tickets there, and took them.

DOMINGO CABALLERO.

DEPOSITION OF E. B. STILES.

STATE OF CALIFORNIA, } ss.
County of Amador. }

A. C. Brown, Contestant v. Miner Frink, Jr., Respondent.

Deposition of E. B. Stiles, a witness produced, sworn, and examined before me, Harvey E. Babcock, a Notary Public within and for Amador County, December twenty-ninth, eighteen hundred and sixty-five, by virtue of the stipulation herewith filed:

Q.—Were you at the Clinton Precinct on the day of the September election?

A.—A part of the day.

Q.—Was Charles Y. Hammond there upon that day?

A.—He was.

Q.—Did you see him vote upon that day?

A.—I did.

Q.—At what precinct did he vote?

A.—Clinton.

Q.—Did you see the ticket he voted?

A.—I did.

Q.—What names were upon it for the Assembly?

A.—Miner Frink and O. F. Thornton.

Q.—Would you recognize the ticket he voted if you saw it again?

A.—I would.

Q.—Will you pick out the ticket that Mr. Hammond cast at that precinct?

A.—I can pick it out if it is here.

Q.—Will you examine the tickets presented here from the Clinton Precinct?

A.—Yes.

[Witness here examined the tickets, and designated one as the ticket voted by C. Y. Hammond, and said that he knew it by the name of R. M. Briggs being first scratched and then torn out of the ticket.]

Q.—Is Miner Frink's name upon this ticket?

A.—It is.

Q.—What class of people formed the mass of persons voting there that day?

A.—After I arrived there they were mostly Italians, judging from the language they used.

Q.—How long were you about the polls.

A.—I was there from about one o'clock, most of the afternoon until the polls closed, off and on.

Q.—Was there any challenges, or did they seem to let every person vote who presented themselves?

A.—I heard no challenges.

CROSS EXAMINED.

Q.—Where did you vote on that day?

A.—I voted in Jackson.

Q.—What ticket did you vote?

A.—I voted the Union ticket.

Q.—You say there were no challenges while you were at the Clinton Precinct?

A.—I heard none at all.

Q.—Why did you not challenge votes?

A.—I went up there for that purpose. I found when I got there there were nearly forty votes polled—I think it was thirty-eight. I was told there had been no challenges given during the day—that probably there would be but few more votes. For that reason I did not challenge any myself. I thought I could stand it if the rest of them could.

Q.—Did you see Hammond put his ticket in the box?

A.—I saw him give his ticket in at the window.

Q.—Might he not have changed his ticket after you saw him?

A.—Not that ticket.

Q.—Do you know, of your own knowledge, that no other Union ticket was placed in the box with Mr. Briggs' name torn out?

A.—I do not.

Q.—Could not Hammond have changed his ticket, and put in another ticket?

A.—It could have been done, of course.

Q.—The only way that you recognize this ticket is by Mr. Briggs' name being torn out?

A.—That is not the only way. There are pencil marks upon it that I recognize it by; it was done with his pencil, he holding the ticket in his hand.

Q.—Is there anything but the slightest mark of a pencil on this ticket?

A.—A man could make a smaller mark, and still recognize that there was a mark there.

Q.—How far were you from the polls when Hammond put the ticket in?

A.—When he voted?

Q.—Yes.

A.—Eight or ten feet, to the best of my recollection.

Q.—Where is Mr. Hammond to-day?

A.—I saw him here in his place of business this morning.

Q.—In Jackson?

A.—Yes, I saw him in Jackson.

RE-DIRECT.

Q.—When C. Y. Hammond voted at Clinton, was he a legal voter in the county.

A.—I think he was; I know of no disqualification.

Q.—Is he a native, or foreign born?

A.—I could not say.

Q.—To the best of your knowledge and belief?

A.—To the best of my knowledge he is native born.

RE-CROSS EXAMINED.

Q.—Was Hammond not born at Montreal, in Canada?

A.—I do not know, I'm sure; I never heard of it before.

Q.—Then you don't know, of your own knowledge, where he was born?

A.—I never heard the place of his nativity discussed before.

EDWIN B. STILES.

DEPOSITION OF E. S. HALL.

STATE OF CALIFORNIA, } ss.
County of Amador.

A. C. Brown, Contestant v. Miner Frink, Jr., Respondent.

Deposition of E. S. Hall, a witness produced, sworn, and examined before me, Harvey E. Babcock, a Notary Public within and for Amador

County, California, taken December twenty-ninth, eighteen hundred and sixty-five, by virtue of a stipulation filed herewith:

Q.—In what official capacity were you acting in this county prior to the election in September last, and from thence to the present time?

A.—I was acting as County Clerk and ex-officio Clerk of the Board of Supervisors.

Q.—Were you also Clerk of the Board of Canvassers when the Supervisors were acting as a Board of Canvassers?

A.—I was.

Q.—Were you present when the Board of Supervisors, acting as a Board of Canvassers, opened the returns from the various precincts?

A.—I was acting as Clerk of the Board of Canvassers at the time.

Q.—Were you present when the returns from the Clinton Precinct were opened?

A.—I was.

Q.—Will you look at this list, and state if that is the poll list that was received from Clinton, and opened by the Board of Canvassers?

[Objected to, because respondent gave no notice that they would introduce documentary evidence.]

A.—It is the same I received as the returns from Clinton Precinct, from the election on the sixth of September, and opened by the Board of Canvassers.

Q.—Do you recognize this as the tally list?

A.—I do.

Q.—How many votes from that precinct were counted by the Board of Canvassers for Mr. Frink.

A.—Six.

Q.—How many were counted for Mr. Brown?

A.—Sixty-four.

Q.—Has there been any naturalization papers taken out in your office since the September election?

[Objected to, as the records are the best evidence.]

A.—There has.

Q.—Will you bring in the records?

[Objected to introduction of record evidence, as no notice was given that any such would be given, and nothing is contained in the stipulation authorizing them to take it.]

Q.—In what Court were those persons naturalized?

A.—In the District Court of the Eleventh Judicial District, in and for this county.

Q.—At what term of the Court?

A.—The December term—this term—eighteen hundred and sixty-five.

Q.—How many were naturalized at that term, at that time?

A.—There were fifty-eight persons naturalized at that time.

Q.—Were they all naturalized upon the same day?

A.—I think they all were on the same day.

Q.—On what time were these persons naturalized?

A.—I will have to look at the record.

Q.—You are entitled to do so.

A.—The record shows that it was on Monday, December eleventh.

Q.—Were those fifty-eight persons naturalized after the September election, and before the special Senatorial election in December?

A.—They were.

Q.—Who paid you for making out their naturalization papers?

A.—I made an arrangement with Mr. Rose to pay for fifty-six of them. I received the money from Mr. Corner; but I had had a talk with Mr. Rose about it.

Q.—Was Mr. Rose running for any office at that time?

[Objected to as irrelevant.]

A.—It was Mr. A. H. Rose; he was running for State Senator at that time.

Q.—As the nominee of what party?

A.—Of the Copperhead party.

Q.—On this poll list of the election at Clinton, do you recognize the names of any persons who have since become naturalized?

[Objected to as irrelevant.]

A.—I recognize the name of Bartolo Lixi—who has been naturalized since—on the poll list, and Sebastian Largomarsini, and Vincenzo Serillo. I believe it to be the same person, only in the record of naturalization it shows Cerillo, instead of Serillo—a C instead of an S. Then there is the name of Joseph Le Frank, who voted at Butte City, who has been naturalized since.

Q.—How often on that list does the name of Stephen Largomarsini appear?

A.—I think twice. I will look it over—twice.

Q.—How often does the name of Joseph Querollo appear?

A.—It appears three times; but there is an addition made to it here, to John and to Joseph.

Q.—How often does the name of John Querollo appear on that list?

A.—The name of John Querollo appears twice.

Q.—Are there any other names appearing on that poll list in that precinct that have been naturalized since?

A.—No others that I am aware of.

Q.—Have you examined Jackson Precinct poll list?

A.—I have.

Q.—Does the name of either of the Querellos appear upon the poll list of the Jackson Precinct as having voted at the September election?

A.—I can't tell until I examine the list.

Q.—Now state if you find either of the Querellos on the Jackson poll list?

[Objected to as without notice, and not provided for in the stipulation.]

A.—I find the name of Joseph Querollo as having voted at the Jackson Precinct on the sixth of September, A. D. eighteen hundred and sixty-five, on the Jackson poll list.

Q.—Look further, and see if you find any other Querellos?

A.—I find Nicholas Querollo on the Jackson poll list for September sixth. I find the name of Nicholas Querollo again on the Jackson poll list.

Q.—I'll ask you if the name of Raffo appear on the Jackson poll list for September, eighteen hundred and sixty-five?

A.—The name of Louis Raffo, Jerome Raffo, Gaetano Raffo.

Q.—Have any persons by the name of Raffo been naturalized since the September election, and if so, what are their names?

A.—Louis Raffo has been naturalized this term of Court, and Gaetano Raffo was naturalized the eleventh day of December, this present term of Court; Joe Ratto was also naturalized the eleventh day of December, eighteen hundred and sixty-five; his name appears as having voted at the September election, Jackson Precinct.

[Contestant objects to the testimony in regard to the Raffos, as their

names do not appear on the list of illegal votes furnished contestant and to the Querollos for the same reason.]

Q.—State if there was one Govani Querollo naturalized since the September election?

A.—I can't tell, as I have not been able to go through the list.

Q.—Examine the records?

A.—The name of Giovanni Querollo appears on the record.

Q.—Is there any other precinct that you know of, that anybody has voted, that has been naturalized since the election?

A.—There was one at Amador.

Q.—State if the name of Peter David is on the Butte City list as having voted?

A.—It is on the poll list for the general election, September sixth, eighteen hundred and sixty-five.

Q.—State if the name of Dominico Fraglia is on that poll list?

A.—It is.

Q.—Do you see the name of James Ardico?

A.—Yes, Sir.

Q.—Do you see the name of Giovanni Arrata there?

A.—Yes, Sir.

Q.—Is this list the poll list of Amador?

A.—Yes, Sir, that is the Amador poll list.

Q.—Examine that list, and see if it is the poll list of Sutter Creek?

A.—It is the poll list of Sutter Creek for September sixth, eighteen hundred and sixty-five—general election.

Q.—Do you find on that list, as having voted, the name of L. Rabolt?

A.—I find his name as having voted—the fourth voter.

Q.—Was he a candidate for a county office at the September election?

A.—He was.

Q.—State what office?

A.—Office of County Treasurer.

Q.—Did the Board of Canvassers declare him elected?

[Objected to as irrelevant.]

A.—They did declare him elected County Treasurer.

Q.—On what ticket did he run for County Treasurer?

A.—Run on the Copperhead ticket.

Q.—As Clerk of the County Court, do you know of any legal proceedings taken against him to establish his ineligibility to the office of County Treasurer?

A.—I do.

Q.—In what Court?

A.—The County Court.

Q.—Was there a trial had?

A.—There was.

Q.—Was there a judgment rendered?

A.—There was.

Q.—Is that judgment of record?

A.—It is.

Q.—Is that the judgment roll in the case?

A.—Yes, Sir.

[Counsel for Frink offered in evidence and read from the judgment roll in the case of Otto Walther v. Leopold Rabolt: First—The findings of fact by and judgment of the Court. Secondly—The further order of the Court in which Leopold Rabolt is declared not to be eligible to the office,

and awarding costs to Otto Walther. Certified copies of each the defendant will furnish.

Contestant objected on the ground: First—That the stipulation does not authorize the taking of record evidence. Secondly—That there is an appeal pending now in the Supreme Court in the same case, upon the ground that the judgment and findings are against the evidence.]

CROSS EXAMINED.

Q.—Mr. Hall, were you present in the Court at the time you state certain persons were naturalized in the District Court?

A.—I was not present in the Court.

Q.—Had you any personal acquaintance with any of the persons who were naturalized?

A.—Very little; I know five or six of them, perhaps, by sight.

Q.—Were you acquainted with Giovanni Querollo?

A.—I was not.

Q.—Do you know whether any of the persons who were naturalized at that time voted at the September election?

A.—I do not of my own knowledge, any further than that their names appear upon the poll list.

Q.—Which of those were naturalized whose names appear on the poll list?

A.—Well, those of Louis Raffo, and Gaetano Raffo, and Jo Ratto.

Q.—What poll list do they appear upon?

A.—They appear upon the Jackson.

Q.—What names of other persons who were naturalized, appear upon any of the poll lists?

A.—At Clinton there is Bartolomeo Lixi and Sebastiano ———. I do not know as I can tell without referring to the poll list. I have got the names here; I can't keep them in my memory. They are Bartolomeo Lixi, Sebastian Largomarsini, and Vincenzo Cerillo—though it is spelled on the poll list with an S, as I stated in my testimony.

Q.—How do you know that the persons who voted are the same persons who were naturalized?

A.—Only by the name.

Q.—Are there not frequently two persons of one name?

A.—That is a question I can't answer. I don't know of any two persons of the same name in this county.

Q.—Do you not know that Judge Brown, the contestant, is A. C. Brown, and his son is also A. C. Brown?

A.—I know that Judge Brown is A. C. Brown, but I am not acquainted with his son.

Q.—Then the only means you have of knowing is that names spelled the same way appear upon the poll list, and persons of that name were naturalized?

A.—Yes; the name is the only evidence I have of being the same person.

Q.—Were you in Court at the time of the trial between Walther and Rabolt?

A.—I was not.

Q.—What day did you say this judgment was entered?

A.—I would have to go to the records of the County Court to find when it was entered. It was signed by the Judge the twenty-seventh of December.

Q.—Is there not an appeal pending in that case?

A.—There is.

Q.—You stated in your direct examination that you saw the name of Joseph Querollo on the poll list of Jackson, and also on the poll list of Clinton; do you know whether the person voting at Jackson was the same as the person voting at Clinton?

A.—I do not.

Q.—You stated in your direct examination that the name of Joseph Querollo appeared twice on the poll list of Clinton; but attached to one of the names was an addition. Do you know whether that addition did not designate a different person from Joseph Querollo?

A.—I do not know it; but I believe it was the same person.

Q.—What was the addition?

A.—That is very hard to tell.

Q.—Can you tell by reference to the poll list?

A.—I cannot; it is spelled differently.

Q.—In speaking of Joseph Querollo, do you not mean Joseph Querollo Panelin?

A.—I mean Joseph Querollo. I do not believe there was any such man as Joseph Querollo Panelin voted there. I believe it is a fictitious name.

Q.—Is there not a name on the Clinton poll list of Joseph Querollo Panelin; and without this name does Joseph Querollo appear three times on that list?

A.—I can't say whether there is that name there; there is a name purporting to be that; and without that the name of Joseph Querollo appears twice.

Q.—You say on your direct examination that the name of John Querollo appears twice, but that one of them has an addition to his name. Now, is not that name John Querollo Picene?

A.—I cannot say. I believe them to be both the same person.

Q.—Does it not appear upon the list, John Querollo Picin?

A.—There is a name on the list purporting to be spelled that way.

Q.—Now, please examine the list and see if it is not spelled John Querollo Picin?

A.—It is Picir, or Picin; I can't tell which.

Q.—Aside from this name, does the name of John Querollo appear but once?

A.—That is all.

Q.—You say the name of Nicholas Querollo appears twice upon the Jackson poll list; do you know whether two persons voted, or whether the same person voted twice?

A.—I do not.

E. S. HALL.

DEPOSITION OF E. S. HALL.

STATE OF CALIFORNIA, }
County of Amador. } ss.

A. C. Brown, Contestant v. Miner Frink, Jr., Respondent.

Deposition of E. S. Hall, a witness produced, sworn, and examined before me, Harvey E. Babcock, a Notary Public within and for Amador

County, this second day of January, A. D. eighteen hundred and sixty-six, by virtue of the stipulation herewith filed:

Q.—Will you please state the number and the names of the persons who voted at the last general election held on the sixth of September, eighteen hundred and sixty-five, at any of the precincts in Amador County, and have been naturalized since, or have taken out their first papers?

A.—At Clinton Precinct—Bartholomeo Lixi, Sebastian Largomarsini, and Vincenzo Cerello—those persons have been naturalized at the present term of the Court, and voted at Clinton at the general election. Butte City—Joseph Le Frank voted at the general election, and naturalized at the present term of the Court. Jackson Precinct—Louis Raffo, Gaetano Raffo, Joe Ratto, and John Celio—he got his first papers December twenty-sixth, eighteen hundred and sixty-five—they all voted at the general election, September sixth, eighteen hundred and sixty-five, at this Jackson Precinct. Sutter Creek—Leopold Rabolt; he is not a citizen. Amador—Joe Williams voted at the general election; naturalized this present term of the District Court—that is, the December term. That is all.

CROSS EXAMINED.

Q.—You state on your direct examination that Lixi voted at the last September election at Clinton, and was naturalized at the last term of the District Court?

A.—Yes, Sir; that is, all the evidence I have is the poll list.

Q.—How do you know that fact?

A.—The only means I have of knowing is the name on the poll list of the last September election at Clinton Precinct.

Q.—Are you acquainted with this man Lixi?

A.—No, Sir.

Q.—Were you in Court when he was naturalized?

A.—No, Sir.

Q.—Then the only means you have of knowing these facts is of your finding the same name on the poll list, and the same name on the records of the Court?

A.—Yes, that is the only evidence I have.

Q.—Might not there be another man of the same name?

A.—It is possible there might be.

Q.—Have you any personal acquaintance with this Sebastian Largomarsini?

A.—Not any.

Q.—Could you swear that this Largomarsini, whose name appears upon the poll list of the Clinton Precinct, is the same one that was naturalized?

A.—I could not.

Q.—Have you any personal acquaintance with this Vincenzo Cerillo?

A.—No.

Q.—Could you swear that this name, which appears upon the poll list of Clinton, is the same person who was naturalized?

A.—I could not.

Q.—Were you present in Court when any of those gentlemen were naturalized?

A.—I was not.

Q.—You say in your examination in chief that Rabolt is not a citizen, how do you know that fact?

A.—Only by the evidence that he applied for his first papers in Placer County in April, eighteen hundred and fifty-nine, and the decision on the contested election case of Otto Walter versus Rabolt, for the County Treasurer's office.

Q.—Do you know who Mr. Rabolt voted for at the election?

A.—I do not.

Q.—Do you know that he voted at all?

A.—I do.

Q.—How?

A.—It appears on the roll list of the general election, held in this county September sixth, eighteen hundred and sixty-five, Sutter Creek Precinct.

Q.—You don't know but there are other L. Rabolts in this county, do you?

A.—I was going to get through with something else. He appears upon the poll list—fourth voter, L. Rabolt; that is the way the name is put down.

Q.—Now an answer to my other question. You don't know but what there are other Rabolts in the county besides the one you refer to?

[Objected to as irrelevant.]

A.—I do not; but I know of only this one.

Q.—What nationality is this man Williams, that you speak of being naturalized?

A.—I could not tell you, Mr. Farley, without going and getting the papers.

Q.—What do you say his given name is?

A.—It is either Joe or Joseph; I will not be positive.

Q.—How does the name appear on the poll list?

A.—I could not tell whether it is Joe or Joseph without going to the poll list.

Q.—Do you know whether it appears the same name on the poll list as it does on the naturalization papers?

A.—No, I am not certain.

E. S. HALL.

DEPOSITION OF JOHN W. ARMSTRONG.

STATE OF CALIFORNIA, } ss.
County of Amador.

A. C. Brown, Contestant v. Miner Frink, Jr., Respondent.

Deposition of John W. Armstrong, a witness produced, sworn, and examined on behalf of A. C. Brown, before me, Harvey E. Babcock, a Notary Public within and for Amador County, this thirtieth day of December, A. D. eighteen hundred and sixty-five, by virtue of stipulation herewith filed:

Q.—Do you know Frank Maxon?

A.—Yes, Sir; I am acquainted with Mr. Maxon.

Q.—State where you were acquainted with him?

A.—I became acquainted with him in this county, three or four years ago.

Q.—Did you have a conversation with him in regard to his residence in this county, or his leaving the county?

A.—I had a conversation with him on or about the fourteenth or fifteenth of August, eighteen hundred and sixty-five.

Q.—Please state the substance of the conversation.

A.—About that time we were going down to Sacramento together—he getting on the stage between Amador and Drytown—and we rode on the outside; and he stated to me that he had been up here temporarily attending to some business—he having an execution against Harris, which he had placed in the hands of the Sheriff to be levied upon certain judgments which Harris had recovered in Amador County, and some property that had been the old Herbertville Mill and Lead property; and I told him there were some parties interested with him in it; and he told me that he resided at San Francisco, and expected to reside there; that if it became necessary to communicate with him, to always address him at San Francisco. In the conversation he spoke of the death of his wife; and since his return from the Atlantic States his home had been in San Francisco.

Q.—Is that all the conversation you had at the time?

A.—It was.

JOHN W. ARMSTRONG.

DEPOSITION OF ISAAC PERKINS.

STATE OF CALIFORNIA, } ss.
County of Amador.

A. C. Brown, Contestant v. Miner Frink, Jr., Respondent.

Deposition of Isaac Perkins, a witness produced, sworn, and examined before me, Harvey E. Babcock, a Notary Public within and for Amador County, by virtue of stipulation herewith filed:

Q.—Are you acquainted with Frank Maxon of Amador?

A.—Yes, Sir.

Q.—Do you know of what place he was a resident on and before the September election in eighteen hundred and sixty-five?

A.—Well, now I can tell you all I do know about it: I met him there on election day, and I had a conversation with him in regard to his voting. I asked him if he could vote there. He said he considered that his place of residence. Since he had taken his wife and family east, he had considered that his home, as he had property, and considered that his residence. That is about all I know.

Q.—He was then living at Amador, was he?

A.—I do not know whether he was or not.

Q.—He had been there for some time?

A.—Don't know exactly how long.

Q.—Was A. H. Rose present at the polls that day?

A.—Yes, Sir, he was.

Q.—Can you state whether he saw him vote?

A.—I cannot.

Q.—Do you know of any other individual by the name of Frank Maxon, who lives in Amador County?

A.—No, Sir; he is the only one I know.

Q.—How long since Mr. Maxon moved away from Amador County—took his family and went east?

A.—I think something over two years ago.

Q.—How long since he returned from the east?

A.—I guess he was gone about six months.

Q.—Where has he resided in the State since his return from the east?

A.—He has been employed at different points in the State.

Q.—Has he lived any length of time in the County of Amador since he took his family and went east?

A.—I don't know whether he has resided there any length of time or not.

Q.—You reside at Amador City?

A.—Yes, Sir.

Q.—Don't you know that Mr. Maxon has not resided at Amador City as long as thirty days at any one time since he returned from the States?

A.—I do not.

Q.—Do you know that he has?

A.—I do not. I have not kept much of a run of him.

Q.—Do you know where he now resides?

A.—Somewhere up north; I don't recollect the name of the place.

Q.—Do you know for whom Mr. Maxon voted on that day?

A.—I do not; I couldn't say.

Q.—Did you ever hear him say?

A.—No.

Q.—Do you know, Mr. Perkins, whether he had been there thirty days before the election or not?

A.—I do not.

Q.—Had he been residing in Amador thirty days before the election, would you not have known it?

A.—I might, and might not. I sometimes saw him there, and then, again, did not.

ISAAC PERKINS.

DEPOSITION OF M. C. PARKISON.

STATE OF CALIFORNIA, }
County of Amador. } ss.

A. C. Brown, Contestant v. Miner Frink, Jr., Respondent.

Deposition of M. C. Parkison, a witness produced, sworn, and examined before Harvey E. Babcock, a Notary Public within and for Amador County, by virtue of stipulation herewith filed:

Q.—Do you know Frank Maxon of Amador?

A.—Yes, Sir.

Q.—When did you see him last?

A.—I don't recollect exactly when I saw him last. It was some time in August, eighteen hundred and sixty-five, I think.

Q.—How long have you been acquainted with him?

A.—A little over eighteen months.

Q.—Where does he reside?

A.—He resides at Amador, so he told me. I never saw him at Amador.

[Objected to as hearsay.]

Q.—About what time did he make the statement to you that he resided at Amador?

A.—It was on the day of the Union County Convention; I don't recollect the day of the month. It was in July, I think.

Q.—Was the Union County Convention held the next week after the Fourth of July, in eighteen hundred and sixty-five?

A.—I don't recollect exactly what day it was held; it was in July, eighteen hundred and sixty-five.

Q.—Can you recollect how he came to state to you that he resided at Amador, in Amador County?

A.—Well, it was the first time I had seen him since we landed at San Francisco, and I asked him where he resided. He said he was residing at Amador.

CROSS EXAMINED.

Q.—You were returning from the Atlantic States with him, were you, Doctor?

A.—We were on the same steamer.

Q.—Do you know whether he came directly to Amador on landing, or stopped in San Francisco?

A.—He said he stopped awhile in San Francisco.

Q.—All you know, Doctor, as to where Mr. Maxon resided, is what he told you?

A.—Yes, Sir.

M. C. PARKISON.

DEPOSITION OF M. W. GORDON.

STATE OF CALIFORNIA, }
County of Amador. } ss.

A. C. Brown, Contestant v. Miner Frink, Jr., Respondent.

Deposition of M. W. Gordon, a witness produced, sworn, and examined before me, Harvey E. Babcock, a Notary Public within and for Amador County, by virtue of the stipulation herewith filed:

Q.—Do you know Frank Maxon of Amador?

A.—I do.

Q.—Do you know where he was about the sixth day of September, eighteen hundred and sixty-five?

A.—I couldn't tell as to the dates, except I were to see a return in the Sheriff's office. It is the levy made upon the Herbertville Mill. That I

first saw him on that business, and saw him from that time until he started for Mariposa County. It was about a week before the twelfth of July. He came to consult with me about the propriety of the levy.

Q.—State if you know at what place he claimed his residence at that time?

A.—About a week before the election, Maxon and Isaac Perkins came to my office in relation to this business of Harris'. While there he asked Mr. Perkins if he thought that he (Maxon) had a right to vote in this county. Perkins referred him to me for an answer. I asked him where he considered he resided? He said in Amador County. I said to him that I thought he was a resident of San Francisco. He said he had been a resident of San Francisco, but he had quit residing there some months; that he had been there, back and forth, as business would call him, but his general business through the State, in different parts, made it an unfit place for him, and he had left; that he had some interest, or agreement for an interest, I don't know which, in Mariposa County, and that he would have to go to Mariposa County to attend to the business there about the time of the election, and if he went there he couldn't vote. I asked him how long he had been living in Amador? and he counted up the time; and I told him that my opinion was, if he had quit San Francisco, and had lived the length of time he stated in Amador, and was here for the purpose of remaining, that he had a right to vote in Amador. He said his purpose was to remain here in Amador County till he got through that Harris business, and that if it turned out as he expected, he should remain here permanently. He then said he would stay here and vote in Amador County before he went to Mariposa; that he would be gone, perhaps, one or two weeks; he couldn't tell that he would be stationary there, so as to give me directions where to write to him if he was needed in that Harris business; that he was connected with parties in San Francisco who would know of his whereabouts, and for me to write or telegraph to them and they would write or telegraph to him.

Q.—Has Frank Maxon the reputation of being a candid, truthful man?

A.—Very much so.

Q.—Do you know where he has been residing since the election, Judge?

A.—I do not. I have not seen him since the election but once, and am not sure I saw him once, but think so.

Q.—You are still acting as attorney for him in that Harris business?

A.—I understand myself to be his agent and lawyer.

Q.—Did he state to you where he had been residing after he quit residing in San Francisco?

A.—He mentioned several places where he had been.

Q.—Did he state Sacramento as one?

A.—He mentioned Sacramento as one.

Q.—I understand you to say, Judge, that all you know of Mr. Maxon's residence in Amador County is what he told you himself?

A.—Yes, that is all, and what I saw.

Q.—In that conversation that you heard between him and Mr. Perkins, and himself and you, he was unsettled in his own mind as to where he had a right to vote?

A.—Yes, as to where he had a right to vote. I told him he could not vote in San Francisco, nor in Mariposa.

MARION W. GORDON.

DEPOSITION OF D. R. GANS.

STATE OF CALIFORNIA, }
County of Amador. } ss.

A. C. Brown, Contestant v. Miner Frink, Jr., Respondent.

Deposition of D. R. Gans, a witness produced, sworn, and examined before me, Harvey E. Babcock, a Notary Public in and for Amador County, by virtue of the stipulation herewith filed:

Q.—Where do you reside, Judge?

A.—At Amador City, Amador County.

Q.—Did you know Frank Maxon on or before the last general election?

A.—I did.

Q.—How long had you known him before that?

A.—I had known him for several years.

Q.—Do you know where his residence was the last general election?

If so, state?

[Objected to, that he can't know the intention and purposes of a man as regards his place of residence.]

A.—He was at Amador City at the time of the election—had been there a few days.

Q.—About how long had he been there, Judge, before the election?

A.—I think he had not been there more than ten days; it might be a few days more, or it might have been less.

Q.—State, Judge, if you know where he had been residing for the last two or three years?

A.—Only what he told me.

Q.—State what he told you.

A.—He told me he had been stopping at San Francisco. The way he came to tell me that, I was Deputy Assessor of Township Number Four during one of his visits to Amador City—I think in July—that Judge Gordon spoke about in connection with that suit. I asked him something about his poll taxes—whether he had paid them. He said he had—he paid them in San Francisco. This was in eighteen hundred and sixty-five.

Q.—Have you been residing at Amador for some time?

A.—I have lived there for nine years. Never lived anywhere else during that time.

Q.—State whether you know whether Mr. Maxon has resided at Amador for a couple of years, or not?

A.—He has only been there for short periods—only a week at a time—on business.

Q.—Has he resided in Amador, since he went east after his family, any length of time?

A.—He has not.

Q.—Do you know whether his family is in this State or not?

A.—He told me they were not.

Q.—How long has it been since he went east after his family, or followed them east?

A.—I can't tell exactly—about a year and a half; and has not resided in Amador over a week or ten days at a time since then.

Q.—What means have you of knowing where he claims his residence?

A.—Only what he told me. He told me he lived in San Francisco.
 Q.—Did you see him vote at Amador?
 A.—Yes, Sir.
 Q.—Were you one of the Judges?
 A.—Yes, Sir.
 Q.—Did you, or any other one, raise any objection to his voting?
 A.—Yes; his vote was challenged.
 Q.—Did he swear it in?
 A.—I don't think he did; I think the challenge was withdrawn.
 Q.—Do you know who challenged him?
 A.—I think it was A. H. Rose.

D. R. GANS.

DEPOSITION OF A. H. ROSE.

STATE OF CALIFORNIA, }
 County of Amador. } ss.

A. C. Brown, Contestant v. Miner Frink, Jr., Respondent.

Deposition of A. H. Rose, a witness produced, sworn, and examined on behalf of the contestant, before me, Harvey E. Babcock, a Notary Public within and for Amador County, California, by virtue of a stipulation herewith filed. Deposition taken December thirtieth, A. D. eighteen hundred and sixty-five:

Q.—Where do you reside?
 A.—At Amador, in this county.
 Q.—Is your name A. H. Rose?
 A.—Yes, Sir.
 Q.—Are you acquainted with Frank Maxon?
 A.—I am.
 Q.—Were you acquainted with him on the sixth day of September last?
 A.—I was acquainted with Frank Maxon on that day.
 Q.—How long have you been acquainted with him.
 A.—About eleven years; something over that.
 Q.—Do you know whether Frank Maxon voted on the sixth of September last, and if so, where?
 A.—I know that he did vote at Amador Precint, in this county.
 Q.—Do you know for whom he voted for Assemblyman?
 A.—I do.
 Q.—Please state.
 A.—He voted for Miner Frink and O. F. Thornton, the two names on the Union ticket.
 Q.—Do you know whether Mr. Maxon was entitled to vote in Amador County on that day for members of Assembly and other officers, if so, state?
 [Objected to, on the ground that it is impossible for witness to know whether he was entitled to vote or not.]
 A.—I know that he was not.
 Q.—Why?

A.—He had not been a resident of the county for more than a year prior to that time.
 Q.—Where had he resided?
 A.—He had been, just previous to the election, residing in San Francisco; came from San Francisco to this county a few days before the election.

CROSS EXAMINED.

Q.—Did you see the ticket that he voted?
 A.—Yes, Sir.
 Q.—Did he show it to you?
 A.—Yes, Sir.
 Q.—What had been Mr. Maxon's business in Amador County previous to his going to San Francisco?
 A.—He had been engaged in superintending a quartz mill a considerable portion of the time while he resided in Amador County.
 Q.—Did he own any interest in any quartz property in the county?
 A.—I think he did own an interest in some quartz property; no mill upon it, however. He had not been superintending himself.
 Q.—Has he been continuously absent from the county since he left here, as you say, over a year ago?
 A.—I think during the year previous to the election that he voted at, he may have been, and I think he was in the county once or twice, two or three days at a time.
 Q.—How long have you known Mr. Maxon in Amador County?
 A.—About eleven years since I first knew him in the county. He has not been residing in the county all of that time, however.
 Q.—Do you know of Mr. Maxon leaving this county at various times when he was superintending mines, and when he would get through return to this county as his home?
 A.—Mr. Maxon's business had been for several years superintending quartz mines, and in eighteen hundred and fifty-eight he removed to Angel's Camp, in Calaveras County. He lived there some two or three years, perhaps; from there he removed to Amador County.
 Q.—Had he not resided in Amador County for a number of years before he went to Angel's Camp?
 A.—He had.
 Q.—Does Mr. Maxon still own quartz property, or had he quartz property on the day of the election, in Amador County?
 A.—On the day of election Mr. Maxon owned a lead of quartz, or an interest in one, in Amador County; as I stated before, there was no mill upon it.
 Q.—Where is Mr. Maxon now?
 A.—At Summit City, in Placer County, I think it is the Excelsior District.
 Q.—Did Mr. Maxon, at any time within the past two or three years, go to the States with his family?
 A.—Some two or three years ago Mr. Maxon sent his family to the States, and about a year and a half ago, or perhaps longer, he, on being notified that his wife was about to die, left here and went to the States himself. She had, however, died before he arrived there. Since which time he has not resided in this county.
 Q.—On his return from the States, did he not return into Amador County?

A.—I think he did, and staid a few days.

Q.—Do you know whether his vote was challenged there?

A.—It was not.

Q.—About what locality in Amador County did Mr. Maxon reside when he resided here?

A.—A portion of the time at Amador, and a portion a half mile this side of Herbertville.

Q.—Was there not a mill in the neighborhood of the Herbertville Mill, which was called Maxon's Mill, and which he superintended for some considerable length of time?

A.—There was a mill near the Herbertville Mill, called the Midian, in which Mr. Maxon owned an interest. The mill was torn down, and the best portions of it moved away, and he sold a portion of the debris to me, and some to Frank Tibbetts, before he left for the States. He was then selling all his interests here.

Q.—In giving the full and lengthy answer about Mr. Maxon selling out his property, do you intend to convey the idea that Mr. Maxon intended to leave the State without intending to return to it?

A.—I am clearly of the opinion that he closed up his affairs with the intention of permanently leaving the county. He may have intended to have returned to the State.

Q.—Did he afterwards return to the State and county?

A.—I stated that he afterwards returned to this State, and to this county, and remained for a few days, and then left again, and was never afterwards engaged in business in this county—after he left it and went to the States.

A. H. ROSE.

DEPOSITION OF D. B. SPAGNOLI.

STATE OF CALIFORNIA, }
County of Amador. } ss.

A. C. Brown, Contestant v. Miner Frink, Jr., Respondent.

Deposition of D. B. Spagnoli, a witness produced, sworn, and examined before me, this second day of January, A. D. eighteen hundred and sixty-six, by virtue of the stipulation herewith filed:

Q.—Where do you reside?

A.—I reside at Clinton, in Amador County.

Q.—Were you at Clinton on the day of the last September election?

A.—Yes, Sir.

Q.—Were you present during the day?

A.—Yes, Sir; all day.

Q.—Are you acquainted with the voters of the precinct?

A.—The most of them. Some of them, very well acquainted; some of them, acquainted by sight.

Q.—To the best of your knowledge and belief, was there any double voting at that precinct on election day?

A.—Nary one, Sir.

Q.—Do you know of any names on the poll list of the precinct who voted there that day that has since been naturalized?

A.—To my knowledge, there is one. It is Bartholomo Lixi.

Q.—Are you acquainted with him?

A.—I am perfectly acquainted with him.

Q.—Did he ever explain to you the reason he voted then, and since taking out his papers? If so, state?

[Objected to, as irrelevant.]

A.—Yes, Sir; he said this: He had taken out his papers in the Eastern States. And the same man said to me this: As long as he would be in the vicinity of Clinton Precinct there would be somebody at the Board, or outside, to interpret for him; that he would not get out his papers; but if ever he should leave Clinton and go where he would not have any Italian to interpret for him, he would be bound to show his papers or have his vote rejected; and for that reason he came down and got out his papers.

Q.—What do you know about his having had his papers in the Eastern States?

A.—By him telling me so.

Q.—Did he ever tell you what became of his papers?

A.—Yes, Sir.

Q.—State what he told you?

[Objected to.]

A.—He has been a resident of Clinton for the last—since eighteen hundred and fifty-six or eighteen hundred and fifty-seven, and had his cabin burned up, and had everything he had burned up; and everybody at Clinton knew it, for we went there to see if we could save anything of his cabin, and couldn't save anything.

Q.—State if you know anything about his papers being burned?

[Objected to, because he has just sworn that the only evidence he had of his having had his papers, was his telling him so.]

A.—Yes, Sir; he had everything burned, and his papers with them, of course.

Q.—State about what time, if you recollect, when the fire occurred?

[Objected to his getting his information from third parties.]

A.—In eighteen hundred and fifty-nine or eighteen hundred and sixty; can't recollect exactly.

Q.—Do you know a man who voted at that election whose name sounds anything like Vincenzo Cerillo?

[Objected to as irrelevant. We are not to distinguish sounds. If he knows the man, why, very well.]

A.—No, Sir, I do not. I know a man by the name of Vincenzo Olivero.

Q.—Is he a legal voter?

[Objected to as irrelevant. No such name on the poll list.]

A.—He is.

Q.—Is there any such man in Clinton Precinct as Vincenzo Cerillo?

A.—There aint none to my knowledge.

Q.—Do you know of any person who voted at that precinct at the last September election, by the name of Sebastian Largomarsino?

A.—I have no recollection. There is a man there by the name of Largomarsini, but his name is Stephen. He voted there that day.

Q.—Are there a good many persons whose names are similar in sound, of the Italian people, who voted at the general election, in that precinct, last September?

A.—Yes, Sir, there are.

Q.—And many of the same name?

A.—And a great many of the same name.

Q.—Do you know of any persons on the poll list of that precinct, who voted there at the last September election, who have since been naturalized, besides the one you have spoken of?

A.—I do not.

CROSS EXAMINED.

Q.—How do you know that Bartolomo Lixi has been naturalized since the September election?

A.—I know that he said to me that he was coming down to get his papers out again; and I said to him, there was no use when he had had them out once. Then he said to me what I said before: That as long as he was around where there would be some one to interpret for him, there would be no use; but if he went where there was no one to interpret for him, then he must have his papers.

D. B. SPAGNOLI.

DEPOSITION OF BARNEY MULDOON.

STATE OF CALIFORNIA, }
County of Amador. } ss.

A. C. Brown, Contestant v. Miner Frink, Jr., Respondent.

Testimony of Barney Muldoon, a witness produced, sworn, and examined before me, Harvey E. Babcock, a Notary Public within and for said Amador County, by virtue of the stipulation filed herewith:

Q.—Do you know Patrick Muldoon?

A.—Yes, Sir.

Q.—Where was he born?

A.—He was born in Ireland, Sir.

Q.—Have you known him in California, and if so, state where, and how long?

A.—Yes, Sir, I have; know he came to me in the latter part of eighteen hundred and fifty-six, in Calaveras County. I was living there. I stopped there until eighteen hundred and fifty-seven, and then he came with me to this county, and stopped about me; kind of made a home with me; was not gone, perhaps, more than maybe two or three weeks at a time.

Q.—Please state whether he was a citizen of the United States?

[Objected to, as it is impossible for one man to tell whether another has become a citizen without he has been with him every hour of his life.]

A.—Well, I don't believe he was, Sir. The reason I don't believe he was, when his cousin challenged him at the polls, at the Presidential election here, I asked him why he tried to vote if he wasn't a citizen? He told me it didn't make any difference; if they took his vote it was all right; he wouldn't swear it in.

Q.—Do you know about what time he enlisted?

A.—Well, I couldn't very well say; it was about the time they got this company up in Jackson.

Q.—Do you mean Captain Cooledge's company?

A.—Yes, Sir; I mean this last company.

Q.—Is Patrick Muldoon a relative of yours?

A.—Yes, Sir; he is my nephew; his father was my brother.

CROSS EXAMINED.

Q.—Has Patrick Muldoon ever been out of this county since he came into it, in eighteen hundred and fifty-seven, up to the time he joined this company?

A.—Yes, Sir; he went home, to Philadelphia, Pennsylvania, about five years ago last October—somewhere about the twenty-third.

Q.—Do you know whether he became naturalized while he was out of the county anywhere?

A.—No, Sir, I couldn't say.

Q.—How long has it been since you last saw him?

A.—I couldn't say. I saw him the night before the company left here.

Q.—About how many days after the last Presidential election, that they left?

A.—Well, I think it was the Monday after it that they left. I know it was Sunday night that I was talking to him.

Q.—Do you know anything of his acts or doings since he left this county, with the company?

A.—Nothing only by report.

Q.—Do you know how old he was when he emigrated to the United States?

A.—I could not certify to his age. I know he was not of age, or twenty-one, when he came.

Q.—At what time did his father emigrate to the United States?

A.—In eighteen hundred and forty-four, at the time of the Native American riot on the Fourth of July; that was Sunday.

Q.—Were you residing at Philadelphia at the time his father was residing there?

A.—Yes, Sir. I came there in eighteen hundred and thirty-seven.

Q.—What time did you leave Philadelphia for California or anywhere else—did you cease to reside there?

A.—I left for California in eighteen hundred and fifty-two.

Q.—State, Sir, if you ever knew of your brother, the father of Patrick, voting at any elections before you left?

[Objected to as irrelevant.]

A.—I know of his voting at such petty elections as electing delegates—but he was not a citizen—and such as them, where there was no challenging done.

Q.—Now, Sir, state if you ever knew him to vote at any elections for the election of officers?

[Objected to as irrelevant.]

A.—Not any more than what I have related to you.

BARNEY MULDOON.

AFFIDAVIT OF EDWARD MULDOON.

STATE OF CALIFORNIA, }
County of Amador. } ss.

Edward Muldoon, being duly sworn, says:

That he knows Patrick Muldoon, who enlisted as a soldier in Company C, of the Seventh Regiment of California Volunteers, having enlisted at Jackson, in the County of Amador, and State of California; and that said Patrick Muldoon is a cousin of this affiant; that he has known him for twenty-five years, or more—that is to say, affiant has known said Patrick ever since affiant was old enough to remember any person; that said Patrick was born in Ireland, and is younger by less than a year than affiant; that said Patrick and this affiant emigrated from Ireland to the United States, the first in the year eighteen hundred and fifty-one, and this affiant in eighteen hundred and fifty-two, and settled in the City of Philadelphia until they came to the State of California; and affiant says that, according to the best of his knowledge, information, and belief, said Patrick Muldoon never became a citizen of the United States, and that he is not now one, but a subject of the Queen of Great Britain; that he has often conversed with said Patrick upon the subject, and he in such conversations never claimed to be a citizen, but admitted that he was not a citizen; and at the last Presidential election held in and for the said county of Amador, said Patrick Muldoon presented himself at the polls in the Town of Jackson, and then and there offered to vote for Presidential Electors—but this affiant being satisfied that he was not a citizen, and had no right to vote, did then and there challenge said Patrick's right to vote; and thereupon the officers of the Election Board proposed to administer to said Patrick the usual oath in such cases made and provided, touching his right to vote; but said Patrick refused to take said oath; and afterwards said to this affiant that he should not have challenged his vote, as he was voting the same ticket that affiant voted; and affiant says that he is informed and believes that said Patrick never became naturalized, according to the laws of Congress, or in any other manner whereby he became a citizen of the United States.

EDWARD MULDOON.

Sworn and subscribed to before me, this eleventh day of December, eighteen hundred and sixty-five.

SEAL.

E. G. HUNT, Notary Public.

AFFIDAVIT OF DOMINGO CABALLERO.

STATE OF CALIFORNIA, }
County of Amador. } ss.

Domingo Caballero, being first duly sworn, says that he is well acquainted with Ramon Molina, who enlisted in Captain Walter S. Cooledge's Company, ("C") Seventh Regiment California Volunteer Infantry, and was mustered into said company in the Town of Jackson, in said county and State aforesaid. That the said Ramon Molina has lived in my house for a long time; that he was born at El Mosieco, in Mexico; that he has often declared, in my presence, that he was not a citizen of the United States of America; that his right to vote was challenged at the polls the last Presidential election, held on the eighth day of November, A. D. eighteen hundred and sixty-four, and, when requested by the Board of Election to be sworn to answer questions—which he refused to do—left the polls without voting. And affiant further says, that he is well satisfied that the said Ramon Molina was never naturalized, and that he is now stationed at Fort Mojave, Arizona Territory.

D. CABALLERO.

Sworn and subscribed to before me, this sixteenth day of December, A. D. eighteen hundred and sixty-five.

SEAL.

E. G. HUNT, Notary Public.

MINORITY REPORT

OF THE

Senate Committee on Elections,

IN THE CASE OF THE

Contested Election of Murray v. Murphy,

WITH

Documents and Testimony.

MINORITY REPORT.

Mr. PRESIDENT:—The undersigned, a minority of the Committee on Elections, to whom was referred the election case of Walter Murray v. Patrick W. Murphy, ask leave to present the following report:

The undersigned find the facts to be, that of the home vote at the last general election in the Third Senatorial District, consisting of the two Counties of San Luis Obispo and Santa Barbara, the sitting member and the contestant had each five hundred and fourteen votes, making a tie, as appears from the official returns; that at a place called Laguna Grande or Temecula, outside of said district, an election was holden among the members of Company C, First Battalion of Native California Cavalry, claiming their residence in the County of Santa Barbara, the returns whereof show seventy votes cast for the sitting member, and five for contestant. This vote was returned to the County of Santa Barbara, where it was counted as legal by the Board of Canvassers, thereby giving the sitting member sixty-five majority.

It appears, further, that at the Estrella Precinct, in the County of San Luis Obispo, twelve votes were cast, all for respondent; that at said precinct the polls were not opened until half-past twelve o'clock, and that they were holden at a place other than that designated by the Board of Supervisors. This vote was counted for respondent by the Board of Canvassers.

Contestant has taken the necessary legal steps to bring this matter of his contest before the Senate. He claims the following as tenable positions:

First—That the vote of said Company C should be set aside, on the ground that the laws providing for soldiers voting out of their county or district are unconstitutional;

Second—That it should be thrown out, because the laws, if constitutional, were not followed, the polls being illegally holden, and the returns illegally made;

Third—That the defects in time and place, shown to have existed at the Estrella Precinct, invalidate the returns therefrom, and that the vote there taken should be rejected.

Other points were made in the original papers, but not being sustained by evidence, have been abandoned.

If the soldier vote be thrown out, whether for unconstitutionality or irregularity, it is clear that the respondent's seat must be vacated. If, in addition thereto, the vote at the Estrella Precinct be rejected, the contestant will then have twelve majority, and will be entitled to take the seat of the sitting member.

In regard to the irregularities at the Estrella Precinct, the undersigned is of the opinion, that although very grave in their nature, they do not amount to a sufficient departure from the election law to invalidate the vote taken.

Contestant holds that "time and place are of the substance of an election," and that the disregard of those particulars on the part of the Board of Judges, as above stated, should render null and void the proceedings had at said polls.

The undersigned is inclined to look upon the law as directory merely, and the defects pointed out as being informalities, and therefore finds the vote in this instance has been properly counted, no fraud having been or attempted to be proven.

The irregularity of the election at Laguna Grande, and of the returns of that precinct, are of a more serious nature.

It appears that by the law of April first, eighteen hundred and sixty-four, being "An Act to provide for the support of the privilege of free suffrage during the continuance of the war," the three highest or senior officers in command of a regiment, detachment, squadron, or battery, are constituted a Board of Judges to supervise the election held by the members thereof. The senior officer in command seals up, certifies to, and transmits the returns. By the Act of April fourth, eighteen hundred and sixty-four, the Board of Judges are the same as provided by the last named Act; but under this Act, the officers holding the election certify to the returns, the commanding officer merely sealing up and transmitting them. It is in evidence that the detachment was commanded by Major John C. Cremony, who took no part in the election, the same having been conducted by the Captain of the company and one Lieutenant, and the returns being certified to and signed by the Captain alone.

These laws, being in derogation of the general election law, and the whole election system of the United States, should be held to be mandatory, and their provisions should be strictly construed. The failure of the commanding officer to superintend the election, to certify or transmit the returns, and the substitution of two junior for the three senior officers of the detachment, should invalidate the election.

The constitutional question involved constitutes a still greater difficulty operating against the validity of these returns. The first soldier suffrage Act was passed April twenty-fifth, eighteen hundred and sixty-three. This law was, in February, eighteen hundred and sixty-four, declared by the Supreme Court to be unconstitutional. The point decided was that the Constitution, in Article II, section seven, fixes the place at which the act of voting shall be performed, to wit: in the county where the voter has his residence. The Legislature of eighteen hundred and sixty-four, after the rendition of the above decision, passed the two laws before referred to, of April first and fourth; the one authorizing the reception of the soldier vote out of the county or district for the offices of members of Congress, and of the Legislature, and for Presidential Electors; the other for all offices in the gift of the people. It is not claimed that in so acting the Legislature intended to set at defiance the decisions of the Supreme Court, but rather acted in the anticipation that as a rehearing had been granted, the Supreme Court would reverse or

modify its former decision. That expectation has not been fulfilled, the Court having, in October, eighteen hundred and sixty-four, upon rehearing, and after the passage of the two Acts last referred to, sustained its previous decision. In passing upon the first Act, the Court virtually passed upon all, the main feature in each and all of these Acts being the provision for receiving the ballots of the military while absent from the county of their residence.

The Constitution, Article IV, section ten, provides that each House shall judge of the qualifications, elections, and returns of its own members. This must be interpreted to confer judicial power upon the Legislature in regard to the matters in question; but that power should be exercised in conformity to the principles of law as expounded by the judiciary. Upon the recognition by the legislative authority of this principle and rule of action depends much of the stability of our form of government. The consequences of overriding, in the present case, the mature and solemn decisions of the Supreme Court no one can foresee. It would necessarily lead to the most serious embarrassment and conflict of authority.

The inferior Courts throughout the State are now conforming their decisions, relative to the election of county officers, to the law of the State as determined by the highest legal tribunal. They are invariably rejecting the soldiers' vote in all cases similar to the one under consideration; and in the same district from which the sitting member in this contested case comes, the Courts have, since the last election, removed several county officials who were elected by virtue of the soldier vote. If the Senate allow the soldier vote in the present case, the anomaly is presented of the soldiers' vote being received for Senator but rejected for all county officers. Can the Senate decide differently from the Courts, and both be right? An affirmative answer involves an absurdity.

No adjudication having as yet been had on the above laws in either branch of the Legislature; no rights having as yet been passed upon in this connection, and no harm, therefore, having been as yet done, the undersigned believes the time has come for the abrogation of these laws and for conforming the decisions of the Legislature to those of the judicial branch of the government.

The undersigned, therefore, recommends the adoption of the following resolution:

Resolved, By the Senate, that the sitting member is entitled to hold the office of State Senator from the Third Senatorial District.

HENRY ROBINSON.

DOCUMENTS AND TESTIMONY

IN THE CASE OF

MURRAY v. MURPHY.

DOCUMENTS.

STATEMENT.

STATE OF CALIFORNIA,
County of San Luis Obispo. } ss.

In the matter of a contested election for office of Senator of Third Senatorial District.

Walter Murray v. Patrick W. Murphy.

Comes affiant, Walter Murray, who complains, alleges, and charges as follows, to wit:

1. That affiant was a candidate at the general election, held within the Third Senatorial District, State aforesaid, on September sixth, now last past, for the office of State Senator, to represent the said District (composed of the Counties of Santa Barbara and San Luis Obispo) in the State Senate; and that Patrick W. Murphy, the respondent herein named, was also a candidate at said election for said office, and that there was no other candidate for the same.

2. That at said election affiant received three hundred and thirty-nine and respondent received two hundred and ninety-five votes in said County of Santa Barbara for said office; and that in the said County of San Luis Obispo affiant received one hundred and seventy-five and respondent two hundred and nineteen votes for said office, making in the aggregate a tie vote of five hundred and fourteen for each candidate.

3. That, in addition to the votes so cast as aforesaid, on the day of the said general election, a pretended election was holden at a place called Laguna Grande, in the County of Los Angeles, or San Bernardino, among the members of a company of California Volunteers, to wit: Company "C" of First Battalion Native California Cavalry, then forming a detachment under the command of Major John C. Cremony, then *en route* for Arizona, said company claiming their residence within the County of Santa Barbara. That at said pretended election affiant received five and respondent seventy votes; that a pretended return of the votes

so cast was forthwith forwarded to the Secretary of State, who again transmitted the same to the County Clerk of the County of Santa Barbara; that the Board of Supervisors of said County of Santa Barbara, on the sixth day of November, instant, in canvassing the votes cast in said County of Santa Barbara at said general election, for the office of Senator of said district, did estimate and include therein the votes cast at said pretended election, so held as aforesaid, as though the votes cast thereat had been cast within the County of Santa Barbara, and did declare the result of the election for Senator within said county in conformity therewith.

4. That the County Clerk of the said County of Santa Barbara, disregarding the fact that there had been a tie vote within the district aforesaid between affiant and respondent for said office, and after receiving the return of election for said office from the County of San Luis Obispo, did, on the thirteenth day of November, eighteen hundred and sixty-five, make out his certificate of election, declaring said respondent duly elected to said office, and did on same day issue the same to the said respondent.

5. That one vote was cast for affiant, on the day of said general election, by an elector of the County of San Luis Obispo, a member of the volunteer company of Captain Cass, stationed at Drum Barracks, Los Angeles County, in conformity with the law relating to the soldier vote; and that a return of said vote was duly made to the Secretary of State, but that the Secretary of State failed to return the same to the County Clerk of the County of San Luis Obispo, whereby affiant has failed to receive the benefit of said vote, as he of right ought to do.

6. That affiant contests the right of said respondent to hold and exercise the rights and privileges and to fulfil the duties of the said office, for the reason, as affiant is informed and believes, and so charges the fact to be, that the said respondent was not duly elected by a majority of the qualified electors of said district to fill said office; but that on the contrary, affiant was so elected.

7. And for specific grounds of contest, affiant, upon information and belief, charges and alleges as follows:

First—That the votes so pretended to have been cast at said pretended election in Company C, Native Cavalry, should not have been counted in the returns of said election in said precinct, for the reason that none of the members of said company were present at any polls within said district, nor did they or any or either of them offer to vote or cast their votes within said district; but during the whole of election day were entirely absent from said district.

8. *Second*—That the polls of said pretended election, of said Company C, were not legally holden;

(a.) Because at said polls there were but two officers present and exercising supervision and charge thereof, and said officers were not the senior officers in command of the detachment to which said company belonged.

(b.) Because at the time said polls were holden, there was no duly authorized list of electors belonging to said company in the hands of the officers holding or pretending to hold said election.

(c.) Because at the time of voting, the name of each voter was not checked upon a duly authorized list of electors belonging to said company.

(d.) Because the officers conducting said election were not duly

sworn, previous to opening the same, by the senior officer in command of the detachment, or by any other person whomsoever.

9. *Third*—That the returns from said company were not signed by the commanding officer of the detachment to which said company belonged, nor were they sealed up and transmitted by him to the Secretary of State.

10. *Fourth*—That at the Estrella Precinct, in said county of San Luis Obispo, a poll was holden, at which twelve persons voted for respondent and none for affiant, the returns whereof were wrongfully counted in favor of respondent by the Board of Supervisors of the said last named county, and wrongful return made thereof to the County Clerk of said County of Santa Barbara. Affiant avers upon information and belief that the said poll was not holden at the place appointed by the Board of Supervisors of said county, but at another place not designated by the Board. Further, that the poll so illegally holden was not opened until after twelve o'clock M. of the said day of election.

11. *Fifth*—And affiant avers that if the votes as aforesaid illegally cast at the said Estrella Precinct, and at the illegal polls held of said Company C, Native Cavalry, be thrown aside, as affiant charges they of right ought to be, he, the said affiant, will be found to have a majority of the legal votes cast at the said general election for the office in question.

12. *Sixth*—And affiant avers that if the votes cast at the illegal polls held of the said Company C, Native Cavalry, be rejected for informality, and if the vote so as aforesaid alleged by defiant to have been given in his favor in the company of volunteers commanded by Captain Cass, at Drum Barracks aforesaid, be counted in affiant's favor, as affiant claims they of right ought to be, he, the said affiant, will be found to have a majority of the legal votes cast at the said general election for the office aforesaid.

13. Wherefore affiant claims and demands that a commission issue to take testimony in relation to the facts herein alleged.

WALTER MURRAY.

STATE OF CALIFORNIA, } ss.
County of San Luis Obispo.

Comes Walter Murray, who upon oath says, that he has read the foregoing statement and knows the contents thereof; that the facts set forth therein are true of his own knowledge, except such as are stated upon information or belief—and as to those matters he believes it to be true.

WALTER MURRAY.

Sworn to and subscribed before me, this eighteenth day of November, A. D. eighteen hundred and sixty-five.

CHARLES W. DANA,

Clerk of the District Court, First Judicial District.

(Indorsed:)

"Walter Murray v. Patrick W. Murphy. Statement of grounds of contest of election.

"Filed November eighteenth, eighteen hundred and sixty-five. CHAS. W. DANA, Clerk of the District Court, First Judicial District.

NOTICE TO RESPONDENT.

STATE OF CALIFORNIA,
County of San Luis Obispo. } ss.

The People of the State of California to Patrick W. Murphy, greeting :

Take notice, that Walter Murray has filed in my office his notice of contest of your election to the office of State Senator of the Third Senatorial District, embracing a statement of the grounds upon which he intends to rely, a certified copy whereof is hereto appended; and that a commission has been issued by me to J. J. Simmler and Ignacio Esquer, Justices of the Peace in and for the township of San Luis Obispo, State and county aforesaid, who will proceed to take the depositions of such witnesses as either party to said contest may wish to examine, on Monday, December eleventh, A. D. eighteen hundred and sixty-five, at ten o'clock A. M., at the Court House of the said county, in the Town of San Luis Obispo.

Given under my hand this twenty-second day of November, A. D. eighteen hundred and sixty-five.

CHARLES W. DANA,
Clerk of the District Court, First Judicial District.

To the Sheriff of said County of San Luis Obispo, greeting :

Make legal service and due return hereof.

CHARLES W. DANA,
Clerk of the District Court, First Judicial District.

SHERIFF'S OFFICE, SAN LUIS OBISPO COUNTY, CAL., }
November 28th, A. D. 1865.

I hereby certify and return, that on the twenty-fifth day of November, A. D. eighteen hundred and sixty five, I did deliver to Patrick W. Murphy, personally, in the County of San Luis Obispo, a certain notice of contest, of which the within is a true copy, together with a certified copy of the statement filed by the within named Walter Murray in the Clerk's office of the First Judicial District Court, county aforesaid, being the same notice and copy of statement which was furnished me by said Clerk for that purpose.

JOSÉ M. MEÑOZ,
Sheriff of San Luis Obispo County.

(Indorsed :)

"Walter Murray v. Patrick W. Murphy. Notice to respondent.

"Filed on return this eleventh day of December, A. D. eighteen hundred and sixty-five. CHARLES W. DANA, Clerk District Court."

STATEMENT OF GROUNDS OF CONTEST.

STATE OF CALIFORNIA,
County of Santa Barbara. } ss.

In the matter of the contested election for the office of State Senator of and for the Third Senatorial District of the State of California.

Walter Murray v. Patrick W. Murphy.

The contestant, Walter Murray, complains, alleges, and charges as follows, to wit :

First—That contestant was a candidate at the last general election held in district aforesaid, on the sixth day of September, ultimo, for the office of State Senator, to represent the said district, composed of the Counties of San Luis Obispo and Santa Barbara, in the State Senate; and that Patrick W. Murphy, the respondent herein named, was also a candidate at said election for the said office, and that there was no other candidate for the same.

Second—That at the said election, as appears by the returns forwarded by the County Clerk of the County of San Luis Obispo to the County Clerk of the County of Santa Barbara, this contestant received one hundred and seventy-five votes, and respondent received two hundred and nineteen votes, in the said County of San Luis Obispo, for the said office; and that in the County of Santa Barbara, as appears by the record of the official count made by the Board of Supervisors of said county, contestant received three hundred and thirty-nine votes, and respondent received two hundred and ninety-five votes, making five hundred and fourteen votes as the aggregate number of votes cast in said district for this contestant, and five hundred and fourteen as the aggregate number of votes cast in the said district for the respondent.

Third—That a return was made by the Secretary of State of the State of California, to the County Clerk of the County of Santa Barbara, of five votes for this contestant, and seventy votes for the respondent, said to have been cast at a place called Laguna Grande, in the County of San Bernardino, or San Diego, by the members of a company of California volunteers in the service of the United States, under the command of Captain A. M. De La Guerra, being Company C. Native California Cavalry, then en route for Arizona, and forming part of a detachment of troops under the command of Major John C. Cremony; said company being said to be composed for the most part of persons resident at the time of their enlistment within the said County of Santa Barbara.

Fourth—That this contestant is informed and believes, that on the day of the said general election this contestant received one vote for Senator of the said district, in the company of California volunteers in the military service of the United States under the command of Captain John M. Cass, at the place called Drum Barracks, in the County of Los Angeles; that said vote was cast by a soldier who, at the date of his enlistment, was a resident and qualified voter of the County of San Luis Obispo; that a return of the said vote for this contestant was duly made to the Secretary of State of the State of California, but no return thereof has ever been received from the said Secretary of State by the Clerk of the County of Santa Barbara, nor, as this contestant is informed and

believes, by the Clerk of the County of San Luis Obispo; and the said vote so cast for this contestant, in the said company commanded by Captain John M. Cass, has not been added to nor counted among the votes cast for this contestant at the said election for the said office of Senator.

Fifth—That the Board of Supervisors of the County of Santa Barbara counted in the soldier vote of Company C aforesaid, commanded by Captain De La Guerra, and that the result of the said count gives respondent a majority of sixty-five votes over this contestant.

Sixth—That the County Clerk of the County of Santa Barbara did, on the eleventh day of November, instant, issue his certificate of election to the said respondent, declaring said respondent duly elected to the said office of Senator.

Seventh—That contestant comes and contests the right of the said respondent to hold and exercise the rights and privileges and to discharge the duties of the said office, for the reason, as contestant is informed and believes, and so charges the fact to be, that the said respondent was not duly elected by the qualified electors of said district to fill the said office.

And for specific grounds of contest, contestant, upon information and belief, charges and alleges as follows:

That the votes purporting to have been cast by Company C of Native California Cavalry, ought not to have been counted in the returns of said election in said district, for the reason, as contestant also alleges on information and belief:

I. That the polls of said pretended election were not legally holden. To sustain this charge, the contestant, on information and belief, alleges the fact to be:

First—That at said polls there were only two officers present and exercising supervision and charge thereof; and said officers were not the senior officers in command of the detachment to which said company belonged;

Second—That at the time said polls were holden, there was no duly authorized list of electors belonging to said company in the hands of the officers holding or pretending to hold said election;

Third—That at the time of voting, the name of each voter was not checked upon a duly authorized list of electors belonging to said company;

Fourth—That the officers conducting said pretended election were not duly sworn previous to opening the same by the senior officer in command of the said detachment, nor by any other person whomsoever.

II. That the returns from said company were not signed by the commanding officer of the detachment to which said company belonged; nor were they sealed up and transmitted by him to the Secretary of State.

And for further specific ground of contest, this contestant alleges that the vote cast for him in the company of California volunteers commanded by Captain John M. Cass, and duly returned to the Secretary of State, as aforesaid, ought to be counted in favor of this contestant.

Contestant avers that if the votes so as aforesaid illegally cast at the pretended polls of Company C be thrown out, as contestant charges they of right ought to be, and the vote so as aforesaid duly cast at the polls of the company of California volunteers commanded by Captain John M. Cass, and duly returned to the Secretary of State, be counted in and added to the votes given for this contestant in the Counties of San Luis Obispo and Santa Barbara, as he charges it of right ought to be, this con-

testant will be found to have received a majority of the votes cast at the said general election, and was duly elected Senator of the said district.

Wherefore contestant demands that a commission issue to take testimony in relation to the facts herein alleged, that witnesses be examined concerning the same, and that, after a full hearing thereof, that it be adjudged that this contestant is the duly elected Senator of the said district.

WALTER MURRAY.

By CHARLES E. HUSE, his Attorney.

STATE OF CALIFORNIA,
County of Santa Barbara. }

Charles E. Huse, being duly sworn, says:

That he is the attorney of Walter Murray, the above named contestant; that the said Murray is not within the County of Santa Barbara, and cannot therefore now verify the foregoing statement; that the matters and things specified in the foregoing statement are within the knowledge of this deponent, in the manner set forth in the said statement; that the matters stated therein are true of his the deponent's own knowledge, except the matters therein stated upon information and belief, and as to those matters, that he believes them to be true.

CHARLES E. HUSE.

Sworn and subscribed before me, this twentieth day of November, A. D. eighteen hundred and sixty-five.

F. A. THOMPSON,
County Clerk.

(Indorsed:)

"In the matter of the Senatorial contest, Walter Murray v. Patrick W. Murphy. Statement of grounds of contest.

"Filed November twentieth, A. D. eighteen hundred and sixty-five. F. A. THOMPSON, Clerk."

NOTICE OF APPOINTMENT OF COMMISSION.

In the matter of the contested election for the office of State Senator, of and for the Third Senatorial District of California.

Walter Murray v. Patrick W. Murphy.

To PATRICK W. MURPHY, Esq.:

SIR:—Please take notice that Walter Murry has filed, in my office, as County Clerk of the County of Santa Barbara, a statement, duly verified, contesting your election to the office of Senator for the Third Senatorial District, and that I have this day issued a commission, directed to F. Cooley and Ysidro Obiols, two Justices of the Peace of this county, to

meet at the District Court room, in the Town and County of Santa Barbara, on Tuesday, the twelfth day of December, A. D. eighteen hundred and sixty-five, at ten o'clock A. M. of that day, for the purpose of taking testimony and depositions in the matter of said contested election.

SEAL.

Witness my hand and official seal, this twentieth day of November, eighteen hundred and sixty five.

F. A. THOMPSON,
County Clerk.

SHERIFF'S OFFICE, SANTA BARBARA COUNTY, }
November 22d, A. D. 1865.

I hereby certify, that I received the within notice on the twentieth day of November, A. D. eighteen hundred and sixty-five, and personally served the same on the twentieth day of November, A. D. eighteen hundred and sixty-five, by delivering to P. W. Murphy, said defendant, personally, in said County of Santa Barbara, a copy of said notice, together with a certified copy of the complaint or grounds of contestation.

J. R. DE LA GUERRA, Sheriff

By W. H. SPARKS, Deputy.

(Indorsed :)

"Walter Murray v. P. W. Murphy. Notice to P. W. Murphy of appointment of commission to take testimony.

"Filed November twenty-second, A. D. eighteen hundred and sixty-five. F. A. THOMPSON, Clerk.

JUSTICES' COMMISSION.

STATE OF CALIFORNIA,
County of San Luis Obispo. } ss.

To J. J. Simmler and Ignacio Esquer, Justices of the Peace in and for the Township of San Luis Obispo, county aforesaid :

GENTLEMEN :—Whereas, Walter Murray, a qualified voter of the Third Senatorial District of the State of California, has filed in my office a notice of contest of the election of Patrick W. Murphy to the office of Senator of said district, with a statement of the grounds on which he intends to rely in said contest;

Now, therefore, in pursuance of the statute in such cases made and provided, I do hereby commission you, and each of you, to meet at the Court House of this county on Monday, the eleventh day of December, A. D. eighteen hundred and sixty-five, at ten o'clock A. M., then and there to take the depositions of such witnesses as the parties to said contest may respectively wish to examine in relation to the matters involved in said contest.

Given under my hand, at my office, the Town of San Luis Obispo, this eighteenth day of November, A. D. eighteen hundred and sixty-five.

CHAS. W. DANA,

Clerk of the District Court of the First Judicial District.

(Indorsed :)

"Walter Murray v. Patrick W. Murphy. Commission to Justices Simmler and Esquer.

"Filed November eighteenth, eighteen hundred and sixty-five. J. J. SIMMLER, J. P.

COMMISSION TO TAKE TESTIMONY.

STATE OF CALIFORNIA,
County of Santa Barbara. } ss.

In the matter of the contested election for the office of State Senator of and for the Third Senatorial District of the State of California.

Walter Murray v. Patrick W. Murphy.

To YSIDRO OBIOLS, Esq., Justice of the Peace of the First Township of said county, and to F. COOLEY, Esq., Justice of the Peace of the Second Township of said county, greeting :

Walter Murray, having filed in my office as County Clerk of the county of Santa Barbara, a statement, duly verified, contesting the election of Patrick W. Murphy to the office of Senator for the Third Senatorial District; now, therefore, I, F. A. Thompson, County Clerk in and for the county aforesaid, do by these presents hereby nominate and appoint Ysidro Obiols and F. Cooley, Justices of the Peace in and for the county of Santa Barbara, duly commissioned and sworn, Joint Commissioners to take testimony and depositions of such witnesses as the parties of this contested election may wish to examine; and such Justices shall convene for that purpose on Tuesday, the twelfth day of December, A. D. eighteen hundred and sixty-five, at ten o'clock A. M., at the District Court room in the Town and County of Santa Barbara.

In witness whereof, I have hereunto set my hand and official seal this, the twentieth day of November, A. D. eighteen hundred and sixty-five.

SEAL.

F. A. THOMPSON, County Clerk.

SHERIFF'S OFFICE, SANTA BARBARA COUNTY, }
November 23d, A. D. 1865.

I hereby certify that I received the within notice on the twentieth day of November, A. D. eighteen hundred and sixty-five, and personally

served the same on the twenty-second day of November, A. D. eighteen hundred and sixty-five, by delivering the same to F. Cooley and Ysidro Obiols, in said County of Santa Barbara, personally, certified copies of said notices.

By W. H. SPARKS, Deputy.

J. R. DE LA GUERRA, Sheriff.

(Indorsed:)

"Walter Murray v. Patrick W. Murphy.

"Filed November twenty-third, eighteen hundred and sixty-five. F. A. THOMPSON, Clerk.

SUBPOENA.

In the County Court of the County of Santa Barbara, State of California.

Walter Murray v. Patrick W. Murphy.

The People of the State of California send greeting to Guillermo Belderrain and José de Jesus Garcia:

We command you, that all and singular business and excuses being set aside, you appear and attend before our County Court of the said County of Santa Barbara, State of California, at a term of said court to be held at the Court room of said court, in the town of said County of Santa Barbara, on the twelfth day of December, A. D. eighteen hundred and sixty-five, at ten o'clock A. M., then and there to testify in the above stated cause, now pending in said County Court, on the part of plaintiff; and for a failure to attend you will be deemed guilty of a contempt of court, and liable to pay all losses and damages sustained thereby to the parties aggrieved, and forfeit one hundred dollars in addition thereto.

Witness, F. J. MAGUIRE, Judge of the County Court, at the Court House, in the Town of Santa Barbara, County of Santa Barbara, this eleventh day of December, A. D. eighteen hundred and sixty-five.

Attest my hand and seal of said court, the day and year last above written.

F. A. THOMPSON, Clerk.

SEAL.

STATE OF CALIFORNIA, }
County of Santa Barbara. }

John Scollan, being duly sworn, says that he is a white male citizen of the United States, and is over twenty-one years of age; that he served the within subpoena by delivering to the within named Guillermo Belderrain a copy of the same, personally, in the Town and County of Santa Barbara, on the eleventh day of December, A. D. eighteen hundred and sixty-five.

JOHN SCOLLAN.

Sworn and subscribed before me, on this eleventh day of December, A. D. eighteen hundred and sixty-five.

F. A. THOMPSON,
County Clerk.

(Indorsed:)

"Walter Murray v. P. W. Murphy.

"Filed December twelfth, A. D. eighteen hundred and sixty-five. F. A. THOMPSON, County Clerk."

[Exhibit C.]

STATEMENT OF MAJOR CREMONY.

HEADQUARTERS FIRST BATTALION NATIVE CALIFORNIA CAVALRY, }
Fort Yuma, Cal., September 29th, 1865. }

SIR:—I have the honor to make the following statement in regard to the votes of persons in the service of the United States from your county, on the occasion of the election held on the sixth instant.

I was in command of a detachment, consisting of Company C of my battalion—nearly all of whom belong to Santa Barbara County—en route to Fort Yuma, Cal. On the sixth instant, I halted my command, after a day's march, at a point known as "Laguna Grande," distant from Drum Barracks about eighty (80) miles. It was then early in the day, and I immediately proceeded to arrange my camp in the usual manner, preparatory to holding an election. While thus engaged, Captain De La Guerra, in company with his First Lieutenant, Santiago De La Guerra, proceeded to a neighboring house and opened a ballot box for the reception of votes, and sent for his company to come and cast their ballots. This was all done entirely without my knowledge or order. Upon discovering the above facts, I refused to take any part in the election or to sanction the same by my signature. I will also state that there were but two officers on the electoral board, although there were four present for duty with the command.

The "list of voters" and "blank returns" furnished by the Secretary of State, were not in possession of the officers holding the election until after all votes had been cast. No public notice was given previous to closing the polls. Messages were sent to all residents of Santa Barbara County that the polls were open, with a request from the Captain that they vote without delay, while voters from other counties received no such warning, nor, in fact, any warning, from the proper authority.

It is very evident to my mind that this course was pursued (in ignorance of the law) by the above named officers from Santa Barbara County, in order to obtain a majority for their own ticket. I know nothing of the relative merits of the two tickets, but in no case ought such proceedings to be successful; and I am of the opinion that the vote of this company should not be allowed to count in the election.

I am, Sir, very respectfully, your obedient servant,

JOHN C. CREMONY,
Major Commanding Native California Cavalry.

To the COUNTY CLERK, Santa Barbara County, California.

P. S.—I am still in ignorance of whether the returns have been forwarded or not.

J. C. C.

(Indorsed:)

“Filed December eleventh, A. D. eighteen hundred and sixty-five.
F. A. THOMPSON, Clerk.”

MINUTES OF THE PROCEEDINGS OF A COMMISSION OF JUSTICES OF THE PEACE,

Consisting of Messrs. Simmler and Esquer, held on Monday, December eleventh, eighteen hundred and sixty-five, under commission from Charles W. Dana, Clerk of the District Court of the First Judicial District, in and for the County of San Luis Obispo, issued November eighteenth, eighteen hundred and sixty-five:

MONDAY, December 11th—10 o'clock A. M.

The contestant appeared in person, and the respondent by Messrs. Grave and White, his attorneys.

Charles W. Dana and Feliz Figueroa were called, sworn, and examined, on behalf of contestant.

Feliz Figueroa was then recalled, and examined on behalf of respondent, and the testimony was closed on both sides.

Commission then adjourned *sine die*.

J. J. SIMMLER, J. P.
YGNACIO ESQUER, J. P.

TESTIMONY.

TESTIMONY OF CHARLES W. DANA.

STATE OF CALIFORNIA,
County of San Luis Obispo. } ss.

In the matter of the contested election for the office of State Senator of and for the Third Senatorial District of the State of California.

Walter Murray v. Patrick W. Murphy.

Charles W. Dana was called and sworn for contestant, and deposed as follows:

Q.—What office do you hold in this county?

A.—I am County Clerk, and by virtue of said office ex officio Clerk of the Board of Supervisors and Board of Canvassers in and for said county.

Q.—Previous to the general election of September sixth, A. D. eighteen hundred and sixty-five, what house was designated by the Board of Supervisors of this county as the place for opening and holding the polls at said election for the Estrella Precinct? Who were the Inspector and Judges appointed by the Board for that precinct?

A.—The place designated was the house of W. T. Sheid, and the Inspector nominated was W. T. Sheid, and the Judges were Philip Biddle and David H. Foster.

Q.—What polls established by the Board of Supervisors of this county were the nearest to the said Estrella Precinct? What is the distance between the two polling places?

A.—The nearest polls to the Estrella were the Hot Springs, and the distance between them about fifteen miles.

Q.—What is the distance between the Estrella polling place and eastern boundary of the county? and was any poll ordered or holden between those two places?

A.—I do not know the distance; no such polls were ordered, and no returns made.

Q.—By the returns made from the Estrella Precinct, how many votes were cast there for P. W. Murphy for the office of Senator, and how many for Walter Murray?

A.—P. W. Murphy received twelve votes; Walter Murray, none.

Q.—In the canvass made by the Board of Canvassers and the result as declared by them, were the above twelve votes counted in favor of Patrick W. Murphy for the office of Senator?

A.—They were.

Q.—By whom were the returns of the Estrella Precinct signed as officers of election?

A.—They were signed by W. C. Taylor, as Inspector; David H. Foster and Philip Biddle as Judges; and Thomas Riggs and John McGee as Clerks.

CROSS EXAMINED ON BEHALF OF THE RESPONDENT.

Q.—Was there any notice of election given at the Estrella? if so, state what kind of a notice?

A.—I drew up and forwarded written notices, to be posted at each precinct, but do not know of my own knowledge that the one sent to the Estrella was posted.

Q.—Has not the Estrella been an election precinct for a number of years past?

A.—It has.

Q.—Were not the notices sent to the different precincts copies of each other?

A.—I think they were.

CHARLES W. DANA.

Sworn to and subscribed before us, this eleventh day of December, A. D. eighteen hundred and sixty-five.

J. J. SIMMLER, J. P.
YGNACIO ESQUER, J. P.

TESTIMONY OF FELIZ FIGUEROA.

Feliz Figueroa was called and sworn, on behalf of contestant, and deposed as follows:

Q.—What is your age, and where do you reside, and how long have you resided there?

A.—I am thirty years of age; I reside at the Estrella; have resided there for six years.

Q.—Where were you the whole of the sixth day of September last, being the day of the general election?

A.—I was at my house the whole of that day.

Q.—How far is your house from that of W. T. Sheid?

A.—It is between three and four hundred yards.

Q.—At what house was the election held at the Estrella Precinct on that day? Who were the officers of election?

A.—It was held at my house. The officers were Philip Biddle, W. C. Taylor, Thomas Riggs, and David H. Foster; I cannot state what position each one held.

Q.—Were you present during the whole of the proceedings, and particularly at the opening and closing of the polls?

A.—I was present all the time, from the opening to the closing of the polls.

Q.—At what hour were the polls opened and closed respectively?

A.—The polls were opened at about half-past twelve o'clock A. M., and closed at about half-past seven.

Q.—How far is it from your house at the Estrella to the Hot Springs?

A.—The Hot Springs are about fifteen miles west from my house.

Q.—How far is it from your house to the eastern boundary of the county?

A.—It is about fifteen miles.

Q.—Do you know of any voters coming to your house on the day of election, and leaving it before the polls were opened; and if so, state who they were?

A.—A certain Mr. Keys did come to my house, apparently to vote at the election, but left before the polls were opened—at about eleven or half-past eleven o'clock.

Q.—Was there at your house, in presence of Mr. Keys, any and what conversation held among the persons present in regard to not holding any election that day?

A.—There was such conversation at one time; some of the parties present were about leaving.

Q.—What countryman is Mr. Keys, how old is he, and where did he reside at that time, and one month previous?

A.—He is an American, about thirty-seven years of age, resided at the Estrella Creek at that time, and for years previous.

CROSS EXAMINED ON BEHALF OF RESPONDENT.

Q.—Was the conversation about not holding any election, in English, and if so, do you understand English?

A.—It was held in English. I do not understand any English, excepting a few words.

Q.—Do you know what time the sun set on the day of election?

A.—I do not know.

Q.—Were the polls kept open after sundown on that day?

A.—They were.

Q.—Did anybody vote after sundown?

A.—I think not.

Q.—Do you know what constitutes closing the polls?

A.—What I understand by closing the polls is when everything is over.

Q.—Do you mean by that to include the counting of the votes and declaring the result?

A.—I do, of course.

DIRECT EXAMINATION RESUMED.

Q.—Are you not in the habit of transacting business with men who speak only the English language?

A.—Yes.

Q.—Do you not understand sufficient English to transact your business with such persons?

A.—I can make myself understood to them.

his
FELIZ ~~X~~ FIGUEROA.
mark.

Sworn and subscribed before us, this eleventh day of December, A. D. eighteen hundred and sixty-five.

J. J. SIMMLER, J. P.
YGNACIO ESQUER, J. P.

Felix Figueroa recalled, on behalf of respondent :

Q.—Where was the last election prior to the late election held in that precinct?

A.—It was held under a large oak tree, where I had a canvas house—about one hundred yards from his present residence. This was two years ago.

his
FELIX X FIGUEROA.
mark.

(Indorsed:)

“Walter Murray v. Patrick W. Murphy, contested election papers for office of Senator, Third Senatorial District. 1—Statement. 2—Commissions. 3—Notice to respondent. 4—Minutes of Commission. 5—Depositions.”

In the matter of the contested election for the office of Senator of the Third Senatorial District, comprising the Counties of Santa Barbara and San Luis Obispo.

Testimony of witnesses taken before Francisco Cooley and Ysidro Obiols, Justices of the Peace in and for the County of Santa Barbara, on the twelfth day of December, A. D. eighteen hundred and sixty-five, pursuant to a commission issued to them by F. A. Thompson, County Clerk of the County of Santa Barbara.

TESTIMONY OF F. A. THOMPSON.

F. A. Thompson, produced as a witness on the part of Walter Murray, the contestant, was duly sworn, and deposed as follows, to wit:

My name is F. A. Thompson; I am twenty-nine years old; I am County Clerk of Santa Barbara County, and as such I am Clerk of the Board of Supervisors of said county. I have in my possession the official statement made by the Board of Supervisors, of the vote cast at the last general election within the County of Santa Barbara. Walter Murray received three hundred and thirty-nine votes for the office of Senator in the County of Santa Barbara, and P. W. Murphy received two hundred and ninety-five votes in the County of Santa Barbara, as appears from the said official statement. I have an official statement of the vote cast in the County of San Luis Obispo, which was transmitted to me by the County Clerk of that county. From this statement it appears that in the County of San Luis Obispo, Walter Murray received one hundred and seventy-five votes, and P. W. Murphy two hundred and nineteen votes for Senator; in the two counties together each candidate received five hundred and fourteen votes, making a tie. I have in my possession a certificate from the office of the Secretary of State, showing the number of votes given at the last general election by Company “C,” Native

California Cavalry, commanded by Captain A. M. De La Guerra, from which it appears that Walter Murray received five votes, and P. W. Murphy seventy votes. In canvassing the returns of the election, the Board of Supervisors of Santa Barbara County counted in the soldiers' vote of Company C; they finished canvassing the returns on the eighth day of November, eighteen hundred and sixty-five. I received no other returns of soldiers' votes than that of Company C, already mentioned. I issued a certificate of election to P. W. Murphy, on the eleventh day of November, eighteen hundred and sixty-five. The commander of the battalion to which Company C belongs is Major John C. Cremony. I have in my possession an official letter from John C. Cremony, the commander of the battalion, and I now produce the same.
[The contestant here offered in evidence the said letter of Major John C. Cremony, marked “Exhibit C.”]

The respondent objects to the introduction of the said letter upon the grounds that the same appears on its face to be the military report of John C. Cremony, Major, commander Native California Cavalry, to the County Clerk of the County of Santa Barbara; and that the County Clerk of the County of Santa Barbara is not the proper authority to act upon the military proceedings of the Cremony aforesaid. The said letter, marked “Exhibit C,” is annexed to this deposition of F. A. Thompson.]

F. A. THOMPSON.

TESTIMONY OF GUILLERMO BELDERRAIN.

Guillermo Belderrain, a witness for the plaintiff, being duly sworn, testifies as follows, to wit:

My name is Guillermo Belderrain; I am twenty-two years old. I was a member of Company C, commanded by Captain A. M. De La Guerra, Native California Cavalry. I was with said Company C on the day of the last general election, September sixth, eighteen hundred and sixty-five. All of Company C was, on that day, and during all that day, at a place called Laguna de Temecula. This Laguna is the other side of Los Angeles about twenty-one leagues, and is not within the limits of the County of Santa Barbara. At the election only two officers were present, namely: Captain A. M. De La Guerra and Lieutenant Santiago De La Guerra. I was a prisoner at the time of the election. Santiago De La Guerra gave me a ticket, and told me if I would vote it that he would set me at liberty. I cast the vote which he gave me. They did not take my irons off after I had voted, but kept me confined. Santiago De La Guerra is Lieutenant of Company C.

CROSS EXAMINED.

I have no leave of absence from said company. I have not been discharged. I am a deserter from that company.

EXAMINATION IN CHIEF RESUMED.

I deserted because they treated me badly. They promised to liberate me, but did not do so, but kept me in shackles.

[The foregoing answer of witness objected to on the ground that there can be no excuse for desertion.]

GUILLERMO BELDERRAIN.

We hereby certify that the foregoing depositions were taken and reduced to writing by us on this twelfth day of December, A. D. eighteen hundred and sixty-five. That the testimony of each witness was carefully read over to him, and after being read over, was signed by each witness respectively, and that the examination was completed at one sitting. That at the taking of the said depositions, Charles E. Huse appeared as attorney for the contestant, and Walter Murray and Albert Packard appeared as attorney for the respondent, Patrick W. Murphy. And we hereto annex a document marked "Exhibit C," which is referred to in the deposition of F. A. Thompson.

F. COOLEY, J. P.
YSIDRO OBIOLS, J. P.

SANTA BARBARA, December 12th, 1865.

STATE OF CALIFORNIA,
County of Santa Barbara. } ss.

I, F. A. Thompson, County Clerk of the County of Santa Barbara, hereby certify that the foregoing thirteen half sheets are all the original papers, documents, and testimony in the case of the contested election for the office of Senator of the Third District, wherein Walter Murray is the contestant and Patrick W. Murphy is the respondent, which have been filed in my office.

SEAL.

Witness my hand and the seal of the County Court of said county, on this eighteenth day of December, A. D. eighteen hundred and sixty-five.

F. A. THOMPSON, County Clerk.

STATEMENT

Of the votes polled at a general election held in the County of Santa Barbara, on Wednesday, sixth day of September, A. D. eighteen hundred and sixty-five, for the following officers:

VOTING PRECINCT.	STATE SENATORS, 3d DIST.		MEMBERS OF ASSEMBLY.	
	P. W. Murphy...	Walter Murray...	R. J. Hill.....	C. E. Huse.....
Santa Clara,.....	37	28	30	35
San Buenaventura.....	48	71	54	67
Carpinteria.....	36	23	31	27
Montecito.....	33	29	33	30
Santa Barbara.....	101	119	88	133
Las Cruces.....	12	23	16	18
Santa Ynez.....	11	34	18	27
Los Alamos.....	17	12	17	11
Soldiers' vote.....	70	5	71	2
Totals.....	365	344	358	350

STATE OF CALIFORNIA,
County of Santa Barbara. } ss.

I, F. A. Thompson, County Clerk of the County of Santa Barbara, and ex-officio Clerk of the Board of Canvassers thereof, do hereby certify that the foregoing is a true, full, and correct statement of the votes polled at a general election held in the County of Santa Barbara, on Wednesday, the sixth day of September, A. D. eighteen hundred and sixty-five, for State Senators and Members of Assembly for the Counties of Santa Barbara and San Luis Obispo, and of the votes of soldiers belonging to Company C, First Battalion Native Cavalry, en route to Arizona, as declared by said Board on the eighth day of November, A. D. eighteen hundred and sixty-five.

SEAL.

In witness whereof I have hereunto set my hand and the seal of said Board, on this thirteenth day of November, A. D. eighteen hundred and sixty-five.

F. A. THOMPSON,
County Clerk.

(Indorsed:)

"Filed November fifteenth, eighteen hundred and sixty-five. CHARLES W. DANA, County Clerk.

FOR STATE SENATOR, THIRD SENATORIAL DISTRICT.

STATEMENT of the votes polled at a general election held in the County of San Luis Obispo, on Wednesday, the sixth day of September, A. D. eighteen hundred and sixty-five, for the office of Senator of the Third Senatorial District.

VOTING PRECINCT.	P. W. Murphy.	Valter Murray.
San Luis Obispo	97	102
Santa Rosa	42	22
Santa Margarita	16	6
Hot Springs	40	15
Estrella	12	.....
Beach	9	12
Arroyo Grande	3	18
Totals	219	175

STATE OF CALIFORNIA, }
County of San Luis Obispo. } ss.

I, Charles W. Dana, County Clerk, and ex officio Clerk of the Board of Canvassers, in and for said county, do hereby certify that the foregoing is a true, full, and complete statement of the votes polled at the several precincts throughout said county for the office of State Senator, as the same was declared official by the said Board of Canvassers, and spread on the minutes of said Board.

SEAL.

In witness whereof, I have hereunto set my hand and affixed the seal of the County Court, (no seal being provided for this office,) this sixteenth day of December, A. D. eighteen hundred and sixty-five.

CHARLES W. DANA,
County Clerk, etc.

MAJORITY AND MINORITY REPORTS

OF THE

Assembly Committee on Elections

ON THE

CONTESTED ELECTION CASE

OF

JOHNSON v. KURTZ.

MAJORITY REPORT.

MR. SPEAKER:—The Committee on Elections, to whom was referred the matter of the contested election, wherein George A. Johnson contests the right of D. B. Kurtz to a seat in this House, report that in accordance with the resolution of the House, a messenger was sent to the County of San Diego for the purpose of procuring a certified copy of the returns from the Colorado Precinct; that said messenger proceeded to said county, was present when said returns were opened by the County Clerk of said county, and counted the number of the ballots, and found them to correspond with the number of names on the poll list, and that the number cast for each candidate corresponded with the number placed opposite the name of the candidate in the statement of the votes polled in that precinct at the election in which they are claimed to have been cast—a copy of which statement, regular in form and duly authenticated, has been forwarded by the County Clerk to us, as directed by the warrant of the Speaker of this House, which copy accompanies this report. The Clerk also transmitted a certified copy of the order of the Board of Supervisors of San Diego County, establishing the Colorado Precinct, and appointing Inspector and Judges therefor. No copy of the poll list was forwarded by the Clerk. It appears from the statement that George A. Johnson received at the Colorado Precinct eighty-nine votes for Member of Assembly; that D. B. Kurtz had five votes, and Blunt Coutts received one vote. If the number of votes cast in the Colorado Precinct for Johnson, as set forth in this statement, be added to the number counted as cast for him in the other precincts in San Diego County; it would give him a majority of all the votes cast, but if the vote of the Colorado Precinct be thrown out, there would be left a majority for the sitting member.

Your committee report these facts without recommendation as to the course of action to be pursued on the part of the House.

THOMAS HANSBROW,
Chairman Committee on Elections.

MINORITY REPORT.

MR. SPEAKER:—The undersigned, a minority of your Committee on Elections, to which was referred the contested election case of G. A. Johnson, Contestant v. D. B. Kurtz, the sitting member of this Assembly from the County of San Diego, has had the same under consideration, and begs leave to submit the following minority report:

D. B. Kurtz is the sitting member, and having been sworn in and admitted to a seat in this body is, *prima facie*, entitled to his seat; therefore the burden of proof rests upon the contestant to show that he, the contestant, is entitled to the seat now occupied by the said Kurtz.

The contestant, in his statement filed in the Clerk's office of San Diego County, October fourth, eighteen hundred and sixty-five, alleges that at the Colorado Precinct, in said county, he, the contestant, received eighty-nine votes for said office, and D. B. Kurtz five votes for said office; that the election returns from said precinct, on account of the distance, etc., did not arrive at the Clerk's office in time (to wit: the second Monday after the election) to be opened and counted by the Board of Canvassers; that notwithstanding the protest of the contestant, the said Board, to wit: on the second Monday after the election, proceeded to canvass the votes of said county for said office, and awarded the certificate of election to the said Kurtz; that if the said eighty-nine votes from the Colorado Precinct had been counted, he, the contestant, would have been declared duly elected.

On the fourth day of October, A. D. eighteen hundred and sixty-five, on application of contestant, the Clerk of San Diego County issued a commission to John Compton and Sylvester Gormez, Justices of the Peace of San Diego County, to take evidence in this case—and fixing the twenty-eighth day of October, A. D. eighteen hundred and sixty-five, at eleven o'clock, at the Court House in said county, as the place and time for taking the evidence. [See Exhibits D and E.]

The contestee was duly served with notice of the filing of the statement, the appointment of the Commissioners, and the time and place of taking evidence. [See Exhibit B, return of Sheriff of said county.]

The records of the proceedings of the Commissioners do not show whether the commission met at the time and place appointed or not; but on the ninth day of November, A. D. eighteen hundred and sixty-five, the Clerk of said county issued a commission to Theodore F. Anderson

to take evidence in said cause, and fixing the Court House in said county as the place, and the sixteenth day of November as the time for taking evidence. [See Exhibit F.]

It does not appear from the evidence, or the minutes, or proceedings of the Commissioners, or from any paper on file, that Kurtz had any notice of the appointment of Anderson on the commission, or the time or place last designated by the Clerk for taking evidence, or that he (Kurtz) appeared before the commission at all.

The following is what purports to be the evidence offered in the case:

On the eleventh of October, eighteen hundred and sixty-five, just two days after Anderson was appointed as one of the Commissioners, one Hall Hanlon makes a statement, in which he states that he acted as Inspector of Election, held at Colorado Precinct, on the sixth day of September, eighteen hundred and sixty-five; that the contestant at said election precinct received eighty-nine votes, and the contestee five votes for said office, and that he sent the election returns to the Clerk by the first Government mail or express that left that place for the Town of San Diego. This statement was signed by the said Hall Hanlon, and has on it a five cent revenue stamp, not cancelled.

This statement is not sworn to, but on the back of it is an indorsement precisely such as is required by law for the acknowledgment of deeds, signed by L. J. T. Yager, Notary Public, with his notarial seal thereto affixed, together with a five cent revenue stamp, duly cancelled. There is nothing to show by whom said Notary was appointed. All that appears from this acknowledgment is, that said Hanlon acknowledged the signature to the statement to be his.

James McCoy, Sheriff of San Diego County, on the sixteenth day of November, eighteen hundred and sixty-five, was sworn before the commission on behalf of contestant, and deposed to the following effect: He knew the modes of communication between San Diego and Fort Yuma; ordinarily it would take to transmit papers between these two places about three days; ordinary travel would be between four and five days. The amount of compensation for carrying election returns is insufficient. It is not easy to secure a competent person to carry election returns unless well paid. Could not be got for less than fifty dollars in gold coin—San Diego County scrip is worth twelve and a half cents on the dollar.

On the same day, A. J. Horn was examined by contestant before the commission, who stated, in substance, that on the thirteenth of September a Mr. Jones, the Government expressman from Fort Yuma, passed Warner's Ranch, where I was then living, and asked me if I knew any person going to San Diego soon. I answered that I would probably have to go in myself the latter part of the week. He then gave me a package directed to George A. Pendleton, Clerk of San Diego, marked "Election returns from Colorado Precinct." The following day I ascertained that I would not go, and used every effort to send them by another person. I had to keep them five days before I found a competent person; then delivered them to Mr. Whitman. Mr. Whitman informed me that they were afterwards delivered to Mr. Anderson.

Mr. Theodore F. Anderson was sworn, whose testimony referred to conveying the election returns from Fort Yuma to San Diego.

George A. Pendleton, Clerk of San Diego, was sworn on behalf of contestant, and states that on the twenty-first of September he received a package from T. F. Anderson, one of the Commissioners, marked "Election returns from Colorado Precinct," addressed to him as County Clerk

of San Diego County. This was on the twenty-first of September, eighteen hundred and sixty-five, three days after the opening of the other election returns, and the issuance of the certificate of election to Kurtz by order of the Board of Canvassers. Mr. Pendleton was Clerk of the Board of Canvassers. On the third day after the opening of the election returns and the order issuing a certificate of election, contestant presented a petition to the Board asking that the canvassing might be postponed until the election returns from Colorado Precinct should come in, which petition was denied. The Board of Canvassers declared Kurtz elected over Johnson by a majority of seventy-one votes. The election returns are still in Mr. Pendleton's possession, unopened.

The above is all that purports to be evidence which can possibly have any bearing upon the question at issue.

The undersigned submits:

First—That the contestee is prima facie entitled to his seat, he having been sworn in, and consequently must have had a certificate of election.

Second—That this prima facie right must be overcome by clear and conclusive evidence, taken as provided by law.

Third—None of the evidence has been taken as provided by law, because no notice was served on Kurtz of the time and place the depositions were taken, which the law requires, nor do the minutes of the proceedings show that Kurtz appeared. The same rules for the admission or rejection of depositions will apply in this case as in other civil suits.

Fourth—But admitting that the contestee had notice as required by law, what do they prove? No one will contend that the statement signed by Hall Hanlon, because it is in the form of an affidavit, when it shows upon its face that it was not sworn to, is any evidence to prove anything whatever. The mere fact that his signature was acknowledged before Notary Public Yager cannot give it any force as evidence; in fact that would go to show that he was not willing to swear to it, and besides it appears upon its face that the statement was made at Fort Yuma, and before Notary Public Yager, whereas the Court House in San Diego was the place, and Justices Compton and Anderson the Commissioners to take the evidence. This statement was made on the eleventh of October, eighteen hundred and sixty-five; the time fixed by the Clerk for taking evidence was November sixteenth, eighteen hundred and sixty-five. By all the rules of evidence this statement must be excluded entirely; then there is no evidence whatever before the committee that any election was held at the Colorado Precinct, or, if there was, how many and for whom the votes were polled.

Fifth—The evidence of Sheriff McCoy, of Horn, or of Anderson, proves nothing, even admitting that it was properly taken. The packages that they received were marked "Election Returns from Colorado Precinct;" but there is no evidence of what election they were the returns. They might, for aught the evidence shows, have been returns of an election for School Trustees, or whether a school tax should be levied.

Sixth—No parole testimony as to the number of votes polled, and for whom polled, would be admissible in evidence but the returns themselves, unless it was first proven that they were lost—they being written, and the best evidence must be produced.

Seventh—Admitting all that purports to be evidence as true, this Assembly could not adopt the majority report of the committee, because there is no evidence to show how many votes were cast for either party in said county; and unless we know how many votes were cast in the

county, besides those at Colorado Precinct, how can this Assembly say that the votes polled at Colorado Precinct, if counted for Johnson, would have elected him? The election laws require the Board to canvass the votes and declare the results at furthest on the second Monday after the election. The Act of May fourth, eighteen hundred and sixty-four, does not affect or alter the general election laws except so far as voting is concerned. The parties, on these facts, submitted their case.

Wherefore the undersigned most respectfully offers the following resolution :

Resolved, That D. B. Kurtz, the sitting member, is entitled to his seat in this Assembly.

All of which is respectfully reported.

WILLIAM HOLDEN,
Of the Committee on Elections.

MINORITY REPORT.

MR. SPEAKER :—The undersigned, one of the Committee on Elections, to whom was referred the matter of the contested election for Members of Assembly from San Diego County, dissenting from the majority report, herewith reports as follows :

It appears by the evidence produced before the committee, that the Board of Canvassers in and for the County of San Diego, in accordance with the provisions of the General Election Law, on the second Monday after the last general election, did open and canvass the votes of said county; and finding that D. B. Kurtz, the sitting member, had a majority of votes for Member of Assembly, then returned, declared D. B. Kurtz elected to a seat in this House,—denying the petition of the contestant that the Board would suspend action until the returns from the Colorado Precinct should be received; which returns, it is alleged, would have given contestant a majority, and entitled him to the certificate. Whether the Board acted correctly or not in refusing to grant a postponement, matters but little in the present state of this case. This House has an undoubted right to go behind the certificate when there is reason to believe that either from fraud, accident, mistake, or natural causes beyond the control of the electors, the will of the majority, as expressed at the ballot box, may be defeated by allowing a sitting member to retain his seat. The failure of Judges and Inspectors of Elections, or of a Board of Canvassers, or of persons intrusted with returns, to perform their duty—no matter from what cause—cannot so fetter the action of this House as to prevent it from giving effect to the verdict of the people; nor can it take away the constitutional right of the House to judge of the qualifications, elections, and returns of its own members. Nor can a failure of a candidate to prosecute his claim to a seat in this body, of which he has been unjustly deprived, or the agreement of contestants to submit their case, preclude the House from taking such steps as it may deem necessary to elicit the truth required to guide it to a correct decision, for the House does not, in matters of this kind, occupy the position of a Court trying a civil action, but has its own rights and the rights of the people to protect, as well as to do justice between the contesting parties.

The only question, then, to be decided in this case, and the one on which it turns, is, whether or not the legal votes cast in the Colorado Precinct, the returns of which are now lying unopened in the County Clerk's office of San Diego County, would, if added to the returns already canvassed, show a majority for the contestant Johnson. In determining this question we must, of course, be governed by the rules that regulate the admission of evidence before legal tribunals, at least we cannot depart from those rules to any great extent, as the experience of the past has shown that they are the only safe guides in an investigation of this character. Especially we should require the best proof that the nature of this case will admit under the circumstances, which would be the returns of the last general election in San Diego County, including the returns from the Colorado Precinct, or a certified copy thereof. The only evidence presented to the committee in relation to the vote polled in that precinct is contained in a statement made by a man professing to have been the Inspector at the election held thereat, which statement, taken *ex parte*, is not sworn to, but signed, sealed and acknowledged like a conveyance of property, having none of the requisites that pertain to an affidavit, and under which no prosecution for perjury could be maintained, even if every statement made therein should be shown to be false.

Under these circumstances, the undersigned is of the opinion that the House cannot, at the present time, proceed to determine the rights of the parties in this case, without the risk of doing injustice either to the contesting or the sitting member, and to the majority of the citizens of San Diego County, and without establishing a precedent that may be used to sanction injustice and fraud hereafter. The undersigned therefore recommends the passage of the following resolution:

Resolved, That the matter of the contested election wherein George A. Johnson contests the right of D. B. Kurtz to a seat in this House from the County of San Diego be referred back to the Committee on Elections, and that said committee are hereby empowered to send for persons and papers; and that the County Clerk of the County of San Diego is hereby authorized and required to open the return of votes cast at the Colorado Precinct at the last general election, and forward a certified copy thereof, and a certified copy of the return of votes cast at said election in the other precincts in said county, by such person or in such manner as he may be directed by the warrant of the Speaker of this House.

All of which is respectfully submitted.

C. H. CHAMBERLAIN.

MAJORITY REPORT

OF

SENATE SELECT COMMITTEE

TO INVESTIGATE

THE SALE OF MARSH AND TIDE LANDS.

REPORT.

MR. PRESIDENT:—Under the authority given by Senate Resolution No. —, your committee thereby appointed elected a Sergeant-at-Arms and Secretary, and upon the twenty-fourth day of February, eighteen hundred and sixty-six, proceeded to the City of San Francisco, and commenced their investigations. They visited in person the lands about Mission Bay and upon Mission Creek, and examined other portions of the water front of the city, and examined under oath a large number of witnesses, comprising surveyors, engineers, city officials, Harbor Commissioners, and property owners generally, and were aided in their labors not only by the facilities kindly afforded by the officials of the City of San Francisco, but were assisted in their deliberations by the legal arguments presented by S. Heydenfeldt, Esq., upon the part of the claimants, and E. Casserly, Esq., in opposition to the same. As all the testimony taken, together with numerous exhibits in the way of maps and documents, are filed with this report, your committee deem it unnecessary that they should discuss in detail or at length the evidence offered, but will content themselves with presenting their findings and conclusions, both of fact and law, as attained from a general consideration of the whole subject.

The lands to which the attention of your committee was specially directed, and which are comprised in certificates from two to thirty, inclusive, of the Surveyor-General's special report, are located chiefly in Mission Bay and adjacent thereto, without the line of water front established by the statute of eighteen hundred and fifty-one, and between that line and the ship channel or line of deep water, and extend from the old water front seaward a distance of about one mile. They embrace an area of over thirteen hundred acres, and were originally located by about thirty claimants, although the number interested has doubtless been much increased by conveyances and gifts. A portion of the land in question is well described as "a mud flat," nearly bare at low tide, and although sometimes resorted to by small craft for shelter, may be considered worthless for the commercial uses to which the water front of a city is generally appropriated. And the location of the water front on this bay, indicated by the red line of eighteen hundred and fifty-one, and at this distance from deep water, must be admitted a mistake, to be corrected by future legislation. Upon this flat, and extending into deep water, and without the front established in eighteen

hundred and fifty-one, the locations now in question were made, the locators claiming that the statutes of this State authorized the location and purchase of these lands, by complying with certain formal requisites and paying into the State Treasury one dollar per acre for the land thus appropriated.

Your committee deem it unnecessary that they should present a critical analysis of the several statutes under which this right is asserted. It was conceded by counsel for claimants upon the oral argument, and unanimously agreed to by the committee, that the true construction of the several statutes relating to this subject, with the light of the *People v. Morrill*, (26 Cal. Rep.) was fatal to this claim as one of strict legal right. The whole course of legislation for a series of years exhibits a systematic and uniform course of reservation and restriction as to the State lands within five miles of the City of San Francisco, and shows as plainly as language can indicate purpose, the intention at least of the Legislature to reserve these lands from the appropriation now attempted, while it is a strained and very technical mode of construction that affords even an excuse for the present claim.

It is asserted, however, that there are equities with these claimants, which should compel the State to relinquish her title to these parties; and these equities may be briefly marshalled as follows:

First—That the obscurity of the statutes upon the subject of marsh and tide lands, misled these parties;

Second—That they were further misled by opinions of the Attorney-General and Surveyor-General of the State upon analogous cases;

Third—That they have paid for these lands into the State Treasury, and have expended large sums since their purchase in their improvement;

Fourth—That the decision in the case of *People v. Morrill*, (26 Cal.,) now conceded to be conclusive against them, was in the lower Court decided in their favor, and the present rule asserted upon the appeal, and since their rights were acquired.

We will consider these propositions in the order in which they are presented. Ignorance of the law will never be heard as an excuse, even to prevent a positive personal wrong. "*Ignorantia legis neminem excusat*," is the maxim, as old as the law itself, and it would be a singular anomaly in jurisprudence or equity were we in the present case to permit the ignorance of these claimants of the statute law to confirm their claim to property of immense value, and which the State by the most apt terms of reservation and restriction has always endeavored to protect from the very alienation here attempted. To permit this plea would be virtually to abrogate all the legislation by which the State has endeavored to protect and preserve her interests, and to surrender all her property to those whose ignorance in construing her statutes was only equalled by their audacity in seizing her possessions.

The fact that the Surveyor-General had approved similar locations and has approved these, is entitled to but little weight upon this question. It was to the statute and not to the Surveyor that these parties should have looked for the will of the Legislature—the law of the land; and the Surveyor-General is not even presumed to be skilled in their interpretation or construction. His duties are wholly scientific and mechanical—not legal; and his legal conclusions are entitled to no higher consideration than they would be were he not in official position. The Attorney-General is a law officer of the State, and his opinion is justly entitled to consideration. The opinion cited was given by the Attorney-General

in a similar claim. And it advises that in that "*particular case*" the patent issue; and an opinion upon the general question involved is expressly reserved. We are unable to see by what system of reasoning an opinion thus restricted, thus carefully worded and guarded, can be urged as a precedent for the wholesale appropriation now sought to be established upon it. Any reasonable man proposing to invest his property in a similar venture would very naturally inquire what were the *particular* circumstances of the case that received this special and carefully worded sanction; nor would he think of deducing from such an opinion any general rule for his own future guidance. If the plain wording of the statute had not advised these parties of their position, the letter of the Attorney-General should at least have put them upon inquiry, and would have done so had they not been evidently more anxious to acquire the property of the State than the legal opinion of her law officer. But if it be conceded that these parties were honestly misled by the opinion of the Attorney-General; that they exhausted every source of information; and that their conduct was marked by the most perfect good faith from first to last; and that together with the agents of the State, they had honestly mistaken a plain provision of statutory law, to what relief would they be entitled by any recognized rule of equity or of jurisprudence—to be remitted to their original rights, restored to the position they were in before this mistake occurred? The error, if any, is theirs; it is not the State's—her statutes are plain and unequivocal. It was the duty of these claimants to know those statutes as they existed. It was not the duty of the Attorney-General to interpret this law for them, and though his opinion may be required, neither State nor litigant is bound by it. To hold that the error or the inadvertance of a public agent can create such an equitable claim against the State as to compel her to relinquish property worth hundreds of thousands of dollars for a mere pittance of a few hundred dollars, would indeed be an act of marvellous generosity to the few, but of the grossest injustice to the many—to all her citizens who have a common interest in her revenues, and whose burdens are increased by this misplaced liberality. To admit such a rule is to virtually place the State at the mercy of every ignorant or designing official who might create any desired equity against the State by deliberately violating the plainest provisions of her statutes. Your committee do not advise that these claimants shall make a greater profit from mistaking the law than they would have done had they correctly construed it, and had not attempted what the statute plainly prohibits—they do not recommend that ignorance of statutes or mistakes of law should receive such encouragement at the hands of this Legislature. The proposition, as we understand it, is simply this: Were the proposition to-day, for the first time, presented to the State to receive for these lands one thousand, or three hundred thousand dollars, would she hesitate? Would it not be regarded as an act of folly and madness to sell for the lesser when she could receive the greater sum? And yet this is precisely what we are now asked to do. If the law is now with these claimants, our action cannot impair their rights; if it is not, our sanction stands as an act of original legislation, giving away for a few hundred dollars property worth hundreds of thousands.

But there are equities to which these claimants are justly entitled. With the sanction of the State's agents, (though without the State's authority,) these lands have been sold, and the money received into the State Treasury. The purchasers claim to have taken possession and to

have made some improvements. The whole amount of purchase money and improvements does not exceed ten thousand dollars. It would illy become a sovereign State to occupy any relation to her citizens but that of the utmost liberality and perfect good faith; and while we believe that these parties made these locations and improvements upon a supposed flaw of legislation, and not believing their construction of the statutes to be the one intended by the Legislature, yet we recommend that they be fully reimbursed for their purchase money and improvements. But while your committee do thus report that the title to these lands is now in the State, and that no good reason exists why the same should be confined to these claimants, we desire to call the attention of the Legislature to other claimants located upon Mission Creek and above its mouth, who, in our judgment, should have their titles confirmed by the Legislature. The position of these titles is this: In eighteen hundred and fifty-seven a commission, with Governor Johnson at its head, under a mistaken construction of a statute providing for the sale of State lands, advertised for sale, and sold at public auction, in a public place in San Francisco, all the State lands above the mouth of Mission Creek. These sales seem to have been conducted in the best faith on the part of both grantors and purchasers, and the land brought its full value. Upon these lands improvements to the value of millions have been made, and hundreds of persons own and reside upon them. It was afterwards decided in *Johnson v. Kissling*, (13 Cal., 56,) that the sale in question was void; and to these lands the title is now in the State. From all the circumstances that attended these sales, and the subsequent occupation and improvement of these lands, your committee do earnestly recommend that as soon as practicable the State do confirm to the purchasers the title held under the Governor Johnson sale of eighteen hundred and fifty-seven. As to the course the State should adopt as to claimants attempting to make locations without the available water front of the city, there can be but one opinion: she should manifest in unmistakable terms her reprobation of all such attempts, and her legislation should be the solemn guaranty that nothing but the public good and the most imperative necessity will ever induce any alteration in the established red line, and only then when just compensation shall be made to those whose interests may be affected by such change.

As to the disposition to be made of the mud flat without the water line of Mission Bay, your committee can only report the difficulties in order to show that a more extended investigation than they were enabled to bestow must be made before any final legislative action can with propriety be taken.

By the Act of eighteen hundred and fifty-one, the red line indicated upon the maps in evidence was declared the water line of the city; the Act in question declaring that this line "should be and remain a permanent water front of said city." With this declaration upon her statutes, the State, by successive enactments, sold her lands; those nearest the front thus solemnly dedicated bringing a much higher price from this consideration alone than those more distant.

That this line was most improvidently established as a water front, we have already stated; but the faith of the State is pledged for its maintenance, and nothing but a present and unavoidable necessity should induce its change. No such necessity now exists; such may never arise. The wharf and dock facilities are shown to be ample for the present requirements of the city and State, and will be sufficient for years to come. And when the time shall come that a water front upon

this bay is demanded, it may appear that the whole bay may be made available by dredging, and the commercial interests of the city better subserved than by filling it up as now contemplated. It is useless to argue that this cannot be done. The bottom of the bay is loose mud, easily dredged, and in maritime cities of far less importance than San Francisco, harbors and docks are carved out of the solid rock, to meet the requirements of commerce. But another and most serious question, the requirements of commerce and sanitary condition of San Francisco, presents itself in connection with any change in Mission Bay. From one half to two thirds of the city is drained through Mission Creek and into Mission Bay. These grades were established, and this system of drainage inaugurated by the city, with the statute before it, which declared that the water front then established should remain forever. It is conceded that with the water line as now fixed, the grades to a large part of the city are insufficient, and the drainage as a consequence imperfect. To extend that water front as proposed, several hundred yards further out, must greatly aggravate this evil, and necessitate a general change in the grades and drainage of a portion of the city, at an immense expense.

Before the State by retracting a solemn legislative declaration should permit such a change, the most careful deliberation should be had, and the most cogent reasons exist. The interests of property holders affected should be as carefully guarded as possible, and such positive injury as cannot be prevented should be compensated for. To consider fully all these important and varied questions of State policy, of maritime necessity, of municipal regulation, of civil engineering, of personal rights, and special equities, is entirely beyond the limited time accorded to your committee. Nor, in their judgment, from the information at present attainable, can any safe and prudent final legislative action be now had in the premises. They therefore recommend that a Board of Commissioners be appointed, to consist of —, whose duty it shall be, conjointly with the authorities of the City of San Francisco, and such engineers and scientific persons as may aid their inquiries, to make full examination and investigation, as to the public lands within Mission Bay, as to the legality, necessity, or policy, of changing the water front at that place, the compensation to be made to parties affected thereby, and the legislative action, if any, that may be required to preserve intact the drainage of that portion of the city, as also the proper disposition to be made of the State lands in that vicinity, and that such commission do report to the next session of this Legislature.

Your committee have not quoted at length from any of the statutes considered, or from any of the numerous reports that relate to the matter. These are all matters of public record, and their introduction here would not in any way add to their notoriety.

Respectfully submitted.

BELDEN,
HEACOCK,
DODGE.

MINORITY REPORT
OF
SENATE SELECT COMMITTEE
TO INVESTIGATE
THE SALE OF MARSH AND TIDE LANDS.

REPORT.

MR. PRESIDENT:—The Select Committee to whom was referred the Senate amendment to Assembly Bill Number One Hundred and Ninety-One, proposing to confirm certain certificates of sale of marsh and tide lands, beg leave to report that at the commencement of their labors they proceeded in company with the Mayor, City and County Surveyor, two members of the Board of City Engineers, and several prominent citizens, to personally inspect the marsh and tide lands in and about Mission Bay; they visited the foot of Third and Fourth streets—the Long Bridge across Mission Bay—the New Potrero—explored Mission Creek from its mouth to near its source—examined the manufactories and improvements on said creek, including the odoriferous precincts of Dow's distillery.

The committee examined under oath a large number of witnesses, among whom were the City and County Surveyor, all of the members of the Board of City Engineers, the Board of Harbor Commissioners, and many property holders and real estate dealers; your committee also had before them United States Coast Survey maps, showing the soundings in and about Mission Bay; and also the official map of said city, with the extension, as recommended by the Board of City Engineers; authenticated copies of which are herewith submitted, and made part of this report. The committee also heard an argument from Judge Heydenfeldt as counsel for the claimants under the certificates, and from Eugene Casserly as counsel for the opposition.

From which personal inspection of the premises, so far as Mission Creek and Bay are concerned, and a consideration of the evidence adduced, and a careful examination of the maps, laws, and the official acts of the Attorney-General, Surveyor-General, and Governor of the State, your committee submit the following conclusions:

That the present city front in Mission Bay, and inside of the Long Bridge, is entirely worthless for all the ordinary purposes of commerce, being a bare mud flat at half tide, and a half mile from water at low tide.

That the city front in and about Mission Bay should be extended to deep water as indicated on the map of said city recommended by the Board of City Engineers, and the line of segregation, as laid down by the City and County Surveyor. Such a line would not only give a depth of water sufficient for commercial purposes, but it would so straighten the water front in that vicinity as to allow the tides or currents of the

main bay to wash or scour the said front, and thereby keep the same from filling up, and avoid the necessity of dredging. The immediate extension is made all the more imperative by reason of the construction of the Mission or Long Bridge, which crosses the bay about one half mile in front of the present city front, and entirely cuts off all communication with the said city front, except through a small drawbridge; said Long Bridge is built under a twenty years franchise from the State. No difficulty could occur in filling up Mission Bay as to pushing out the mud were the plan adopted of filling in along the water line front first. So say the Harbor Commissioners and all the engineers examined on the subject under oath.

On the questions of grades and drainage, we find that from one half to two thirds of the city drains into Mission Creek and Bay, and that the keeping open of Old Channel street, as an outlet for Mission Creek, (as has always been contemplated,) the drainage of course would not be affected, unless the said Channel street should be extended easterly into the main bay beyond its present termination, which is not proposed by either the City Board of Engineers, the City Surveyor, or the claimants under these certificates. It is admitted that the grades between Channel and Harrison streets and Fourth and Sixth streets are too low, and that they will have to be raised whether any extension takes place in Mission Bay or not, and the said extension in Mission Bay can in no manner affect the drainage of said streets, unless, as above remarked, Channel street, into which they all drain, should be extended into the bay. By the opening of New Channel street, as recommended by the said Board of City Engineers, all the land bordering on the southerly side of Mission Bay could be drained therein upon almost any grade that the Surveyor might choose to select, as the Potrero hills are three hundred and twenty-six feet high at a distance of less than two miles from said New Channel street. The small triangular piece of land between Old and New Channel streets, of course, could be easily drained into either of said streets, or into the bay.

The present water line front was established by Act of the Legislature in eighteen hundred and fifty-one, and it is not questioned but that any subsequent Legislature has the power to alter or change such front whenever an imperative necessity would seem to demand such change. It is scarcely possible to imagine a case where a change of city front is more imperatively demanded than where such front is half a mile from water at low tide, as is the case in Mission Bay. That the faith of the State as impliedly pledged to the owners of property on the present city front will not be violated, is evidenced by the fact that the said owners have not only failed to protest against such extension, but as far as your committee know they favor the same.

It was admitted by Mr. William Sherman and Mr. Alfred Barstow, President and Secretary of the "Mission Bay Bridge Company," that the said bridge could not have been built but for the fact that Mr. H. F. Williams (owner of the certificates in question) took more than half the stock.

As to whether the State's title has passed by virtue of the said certificates of sale or not, we have to say that Messrs. Heydenfeldt, Curtis, Patterson, Wallace, Stow, Wright, and Yale, prominent and leading lawyers in the State, by written opinions filed with your committee, contend that the State's title did pass.

It is also a matter of official record that the Attorney-General, who is the legal adviser of the State officers, was of the same opinion, and fre-

quently so stated verbally, and by written opinion to the Surveyor-General.

Governor Downey and Surveyor-General Higley were of the same opinion some six years since, when they issued three patents to lands within one mile of the State Prison.

Governor Low and Surveyor-General Houghton were of the same opinion when, on the seventh of June, eighteen hundred and sixty-four, they signed the patent to Albert Lusk for lands which were included within the same exemptions as the locations under present consideration.

The learned Judges of the Seventh and Twelfth Judicial Districts were of the same opinion, and so decided in the cases of "The Board of State Prison Directors v. McCauley," and in the case of "The People v. Morrill," and it will be remembered that the present Attorney-General admitted the "*legal and financial*" correctness of the opinion in the McCauley case, by paying five thousand dollars of the State's money to compromise the same; and that the Morrill case was decided in the Court below in favor of the claimants under the certificate or patent (and to that extent was a judicial determination of the question) *before* the location of the certificates under consideration; and the same was not reversed by the Supreme Court until *long after* said locations had been made, the certificates issued, and the holders thereof had taken possession of the property.

In support of the foregoing facts on the question of title, we submit the proof, to wit: the legal opinions aforesaid, and extracts from the report of the Surveyor-General, including the letter of the Attorney-General:

SAN FRANCISCO, March 2d, 1866.

Hon. L. B. MIZNER,
Chairman Tide Land Committee:

DEAR SIR:—My engagements did not permit me to be present when Mr. Casserly replied to me before the committee, but I have since learned that the position was taken that I had admitted that the claimants had no title. This is a serious mistake, although I can imagine how it arose. But the committee will remember that I went carefully through an examination of the statutes for the sole purpose of proving that we did have title, and I proved it to the satisfaction of my own mind. Afterwards, I took the position of our opponents, and arguing upon the hypothesis that we did not have title, set forth our strong equities in favor of a confirmation. This, however, was by no means giving up the point first insisted on by me—that the title did vest by virtue of the law.

Afterwards, I commented on the opinion of the Supreme Court in the case of "The People v. Morrill."

I admitted that the opinion in that case was against us, but I denied that it was law, and went on to show that the Court had derived its construction from the remote source of the language of an affidavit, and I characterized it as a curious decision. I then insisted before the committee that the rule for decision of a legislative body was necessarily different from that of a Court, and it was not bound down by a system of judicial criticism; that each department of Government was separate and distinct, and each had the right to decide the law for itself upon any case coming within its jurisdiction.

You will remember that early in the session, and I think in both Houses, this very proposition came up on the question of the soldiers' vote; it was

urged to be invalid, because the Supreme Court had so decided, but both Houses determined otherwise, and disagreed with the Court.

This was done upon the ground that each department had its distinct functions, and had the right in every case within its jurisdiction to decide according to its own conscience, and is not bound by the opinion or decision of any other department. I insist, therefore, that it is the duty of the Legislature, for itself, to look at the laws on which we rely, and decide for itself.

This is about a reflex of what I did argue before the committee, but now I have to ask the favor of saying a word more about the case of *The People v. Morrill*, 26 Cal. R.

I find that I was totally mistaken in supposing that opinion was against us. By examining the case, you will find, as I stated in argument, that the Court derived its construction from the language of the affidavit in the Act of eighteen hundred and fifty-eight, and I thought that as we were referred to that Act for the machinery of sale, that we also fell under the same ban; but on examining again the Act of thirteenth of May, eighteen hundred and sixty-one, I find that it provides the affidavit that is to be taken, and which is totally different in its language from the affidavit of the Act of eighteen hundred and fifty-eight, and the amendment of eighteen hundred and fifty-nine. So that although the purchaser under the Act of eighteen hundred and sixty-one is referred to the machinery of the Act of eighteen hundred and fifty-nine, yet, the part of the procedure by affidavit is totally different. So that, in fact, the case of *The People v. Morrill* has no influence whatever on our purchase.

I am sorry that I made this oversight, but it occurred by only recently having the case brought to my attention, and not having had time for a closer investigation. I am glad, however, that it is not too late, and I am satisfied the only difficulty in our way is entirely removed by this new observation.

I shall ask you to allow me through you to be corrected before the committee before they come to any final determination.

Very respectfully,

S. HEYDENFELDT.

SAN FRANCISCO, March 3d, 1866.

The undersigned fully indorse the views expressed in the letter of Judge Heydenfeldt's, of date March second, eighteen hundred and sixty-six, addressed to the Chairman of the Senate Committee engaged in the investigation of the purchases under the tide land certificates, the conclusions therein reached being:

First—That by said certificates a valid title vested in the purchasers;

Second—That the case of the *People v. Morrill*, 26th Cal., 336, is not only not authority against said title vested by said certificates of purchase, but that the decision in said case has no application to title acquired under said certificates.

PATTERSON, WALLACE & STOW,
SELDEN S. WRIGHT,
GREGORY YALE,
GREENE C. CURTIS.

[Extracts from Surveyor-General's official Report, 1865.]

TIDE LANDS.

The subject of the sale of marsh and tide lands within five miles of the Cities of San Francisco and Oakland, and one mile and a half of the State Prison, seems to have assumed an importance which I had not given it one year ago, when your attention was called to it in my annual report, nor does its importance seem to have been appreciated by the Honorable Board of Swamp Land Commissioners in May, eighteen hundred and sixty-four, when, in an official report to this office, they certified that the lands of this character sold by an Act of the Legislature (under an appraisal, to be made by them) to the Golden City and North San Francisco Homestead Associations, were worth three dollars per acre; nor could it have been appreciated by them in June of the previous year, when, in an official report to this office, they certified that the lands sold by an Act of the Legislature (under an appraisal, to be made by them) to the South San Francisco Homestead Association, were worth one dollar per acre.

The importance which has since been given to this subject induces me to give more fully than in my last report the circumstances under which certificates of purchase for some of this class of lands, in the vicinity of San Francisco and Oakland, were issued. The first demand since I have been in this office for a certificate of purchase of any marsh and tide lands within five miles of the Cities of San Francisco and Oakland, or one mile and a half of the State Prison, was made by the attorney of Mr. A. Lusk, for one hundred and twenty acres of land surveyed by the County Surveyor of Alameda County.

Although, after careful consideration of the laws, I agreed with him that either by design or careless legislation the lands were not exempted from sale, I refused to issue the certificate unless sustained by some other authority, that it was my duty to do so; and the question was referred to the Attorney-General by letter, referring him to all the laws on the subject, and stating fully the case, as follows:

STATE OF CALIFORNIA, STATE LAND OFFICE, }
Sacramento, February 23d, 1864. }

To Hon. J. G. McCULLOUGH,
Attorney-General:

Albert Lusk has made application for a certificate of purchase for one hundred and twenty acres of salt marsh and tide land in Alameda County. It has been regularly surveyed, the survey approved, and the twenty per cent and the first year's interest paid to the County Treasurer. There is no counter claimant, and no person making opposition. The law for the purchase of this land has been strictly complied with. I have heretofore refused to issue certificates of purchase of marsh and tide lands within five miles of the Town of Oakland, upon the supposition that they, as well as swamp and overflowed lands, were excluded from sale. This piece of land is at the outer limit, but within the five miles of Oakland. Lusk contends that section thirteen of the Act for the sale of swamp and overflowed lands, passed April eighteenth, eighteen hundred and fifty-eight, (on which I have relied as excluding these lands from sale,) expressly provides in terms that they may be sold. He also contends that the legislation providing for their sale continued in

force and was reconfirmed in express terms by sections twenty-six and twenty-seven of the Act for the segregation and reclamation of swamp, marsh, and tide lands, and approved May thirteenth, eighteen hundred and sixty-one. He further contends that the Act of May fourteenth, eighteen hundred and sixty-one, providing for the sale of salt marsh and tide lands, did not repeal former Acts, but ratified and confirmed sales made under them, and continued their provisions in full force, its prohibitions being intended to apply only to any attempt at purchase under its own provisions, leaving unrepealed the Acts of eighteenth of April, eighteen hundred and fifty-nine, and May thirteenth, eighteen hundred and sixty-one, providing for the sale of these lands. The only other Act having any bearing upon the subject is the Act of April twenty-seventh, eighteen hundred and sixty-three, and by reading section thirty it will be seen that these lands are entirely excluded from its provisions. A critical reading of the law has convinced me, that while my rulings have been correct in relation to swamp and overflowed lands within the boundaries mentioned, I should be doing injustice to applicants in making this ruling apply to marsh and tide lands. I certainly ought not to continue to refuse to issue this certificate, if not clearly sustained by the law; for I have no wish to invite litigation and personal expense, to have the Courts decide that my rulings are what the law should be, and not what it really is.

Shall I issue the certificate of purchase, or refuse and contest the case in the Courts?

Very respectfully, etc.,

J. F. HOUGHTON, Register.

By A. S. BENDER, Deputy.

Early in the month of March, no answer having been received to the above, at the request of Mr. Lusk's attorney I went with him to the office of the Attorney-General, who told me that he had examined the subject, and that the laws did not seem to exclude from sale the marsh and tide lands within five miles of San Francisco and Oakland and one mile and a half of the State Prison; but that he did not like at that time to give a full written opinion to that effect, as he was then engaged on behalf of the State in a suit to set aside a patent issued by Governor Downey for tide lands covering part of the prison brick yards, and such an opinion would be equivalent to an abandonment on the part of the State of her position in that case.

Upon examination of the records of my office, I found that while Mr. Higley was Surveyor-General, Governor Downey had issued patents to the following persons for tide lands near the State Prison:

Date.	To whom.	Acres.
April 18th, 1860.....	J. F. McCauley, for.....	40.35
August 8th, 1860.....	George N. Cardwell, for.....	50.33
October 23d, 1860.....	Martha Buckelew, for.....	11.84

All of which tracts were in close proximity to the State Prison, and the first named conveyed part of the brick yards.

The fact was also brought to my notice that in a suit brought at the instance of the Board of State Prison Directors, to set aside the first named patent, the Honorable Judge Southard, of the Seventh Judicial District Court, rendered a decision against the State, and sustaining the validity of the patent. (This case was subsequently abandoned on the part of the State, and the land purchased from the claimant under the tide land patent, for the use of the prison.)

On the twenty-third day of May I received from the Attorney-General the following reply to my letter of February twenty-third:

STATE OF CALIFORNIA, ATTORNEY-GENERAL'S OFFICE, }
Sacramento, May 23d, 1864. }

Hon. J. F. HOUGHTON,
Surveyor-General, Register, etc.:

DEAR SIR:—In reply to your question contained in a communication to me of February twenty-third, eighteen hundred and sixty-four, (which would long since have been answered, as I have explained to you verbally, had not the State's interests been involved in a similar case,) whether you were authorized to issue to one Albert Lusk a certificate of purchase to certain lands situate within five miles of the Town of Oakland, and belonging to the quality of salt marsh and tide; reserving still a full answer to the general question involved in your letter, for the same reason that I have so long delayed this reply, and *only* for that reason, I advise you in this particular case to issue the said certificate to Mr. Lusk, upon his full compliance with the other provisions of the law.

I remain truly,

J. G. McCULLOUGH,
Attorney-General.

Upon the receipt of this letter, Mr. Lusk's certificate was delivered, and on the second day of June, evidence of full payment having been received with an application for a patent, it was made out and sent with the proper certificate, inclosed with the following letter fully explaining the case:

STATE OF CALIFORNIA, STATE LAND OFFICE, }
Sacramento, June 2d, 1864. }

His Excellency FRED'K F. LOW,
Governor of California:

DEAR SIR:—In February last Mr. Albert Lusk made application to this office for a certificate of purchase for salt marsh and tide lands situate between four and five miles from the City of Oakland. Up to that time it had been the practice of this office to regard such lands as exempt from sale under section thirteen of the Act of April twenty-first, eighteen hundred and fifty-eight, but upon a careful consideration of that Act, and the Acts of May thirteenth, eighteen hundred and sixty-one, (sections twenty-six and twenty-seven,) May fourteenth, eighteen hundred and sixty-one, and April twenty-seventh, eighteen hundred and sixty-three, I became satisfied that such practice was contrary to law,

but refused to change the practice unless upon the opinion of the Attorney-General.

On the twenty-third of February I stated the case to the Attorney-General, asking him what my duty was in the premises. A copy of this letter, with his reply, dated May twenty-fifth, is herewith inclosed, and in accordance with it I have issued the certificate.

Mr. Lusk has made payment in full and applied for his patent, certificate for which I send herewith. As this is the first instance in which a certificate has issued to any lands heretofore regarded by me as exempt under the Act first referred to, I desire to call your attention to it, that you may satisfy yourself before signing the patent.

I am, very truly,

Your obedient servant,

J. F. HOUGHTON,
Register of the State Land Office.

On the seventh day of June the patent was returned to my office, signed by the Governor. Up to this time no certificates of purchase of any of the lands in question had been delivered from this office, except the one referred to as delivered to Mr. Lusk; but actuated only by a desire to know and perform my duty according to law, as bound by my oath of office to do, and regarding the accumulated evidence herein presented as sufficiently conclusive upon this point, from that time until the tenth day of December of that year, certificates of purchase were issued to applicants who had in all respects complied with the law.

On that day I received a letter from the Attorney-General advising me to stay all proceedings in regard to the sale of the lands in question just where they were, which advice I have strictly followed.

On the twelfth day of December, two days later, the Attorney-General wrote me, referring me to the decision of the Supreme Court in the case of *The People, ex rel. Pixley, Attorney-General v. Morrill*, which he regarded as settling the question against the sale.

Between the seventh day of June and tenth day of December, certificates of purchase were issued to twenty-seven applicants for one thousand three hundred and thirteen and sixty-five one-hundredths acres within five miles of San Francisco, and to forty-four applicants for four thousand six hundred and eight and twenty-six one-hundredths acres within five miles of Oakland, upon surveys and applications forwarded to this office by the County Surveyors of the respective counties.

Thirteen surveys and applications have been returned by the County Surveyor of San Francisco, embracing five hundred and ninety-five and forty-two one-hundredths acres more of these lands, which, under the last letter of the Attorney-General, have been refused any action whatever in this office.

Three patents were, upon application, prepared for lands in Alameda County, and forwarded to the Governor, which have not been returned or issued.

No patents for any of these lands within five miles of San Francisco have been applied for, and consequently none have been prepared, and will be refused if applied for.

In concluding this subject, I desire to renew the recommendation con-

tained in my last report in regard to the repeal of the laws relating to the sale of the lands in question.

With such an array of authority, including two Governors, two District Judges, two Surveyors-General, one Attorney-General, and a number of eminent lawyers, we may well shrink from setting up our opinion in opposition thereto, notwithstanding the case of *the People v. Morrill* as finally determined by the Supreme Court, which it is contended has little or no application to the certificates under consideration.

As to the next question: "If the State's title did not pass by virtue of the said certificates, to what extent is the State bound by the official acts of her officers?" we have only to repeat all we have said upon the preceding question of title, and conclude therefrom, that if the title has not passed, then and in that event we think the equities of the claimants are overwhelming, and that the State is bound by every consideration of justice and good faith to support the official action of her officers and protect her citizens.

In conclusion, we have only to add that there has been almost infinite confusion as to land titles in San Francisco ever since eighteen hundred and forty-nine, and that nothing would more tend to the prosperity of that great city than the settlement of such titles upon a permanent basis. One great step in that direction was the passage of the law known as the Van Ness Ordinance, which confirmed to the settler in possession all his lands, "without money and without price." It is well known that the same bitter hostility was arrayed against the passage of that Act as now opposes the confirmation of these certificates, and by the same class of people. It is the true spirit of our complex system of government to, in effect, give away the public domain to actual settlers, or to any person who will improve or reclaim the same. Our Federal Government disposes of her land at one dollar and twenty-five cents an acre, a price that scarcely pays for the surveys. Our State holds millions of acres in trust, and upon the express condition that all the funds obtained from the sale thereof shall be expended in their reclamation. The Spanish and Mexican laws as expounded by our Courts, directed that pueblos such as San Francisco, should hold their municipal lands in trust for and to be parcelled out in small lots to actual settlers.

There appears to be no good reason why a different rule should be applied to the purchasers under the certificates in question, they having paid for the property under what was officially interpreted to be the law of the land, and having spent large sums of money in improving the same. Should the property in question pass at once into private hands, the city and State would receive more in the way of taxes in the next ten years than it was worth at the date of the certificates. As to the value of the property, however, while we take it for granted that no just man will contend that it should in any manner affect the principle, we find that the Legislature of eighteen hundred and sixty-three, granted to the "South San Francisco Homestead Association" a large piece of water property just below Mission Bay, and appointed the State Board of Swamp Land Commissioners to appraise the same, which they did at one dollar per acre. The next Legislature, of eighteen hundred and sixty-three and four, seemed to be satisfied with that appraisement, as they made two additional grants of water property to homesteads in the same vicinity, and

selected the same Board of Swamp Land Commissioners to appraise the same, which they did, we believe, in the spring of eighteen hundred and sixty-four, and valued the same at three dollars per acre.

We have been unable to find that the locators of these certificates have been guilty of any fraud; but that, actuated by the usual disposition of business men, (the desire to acquire property,) having discovered that the lands in question were in their judgment liable to entry, they acted, we believe, like any other set of men in the State would have acted.

We, therefore, recommend in lieu of the amendment, the adoption of the following substitute, which in our judgment, will so guard the city front that it shall forever remain under the control of the State, secure the drainage by requiring the two Channel streets to be kept open as the great sewers of the city, and at the same time maintain the faith of the State, and do exact justice to the citizen.

We also recommend the repeal or modification of the laws relating to the sale of the lands in question.

All of which is respectfully submitted.

L. B. MIZNER,
Chairman Select Senate Committee.
GEO. S. EVANS.

SUBSTITUTE.

And all sales of swamp and overflowed, salt marsh, and tide lands, or lands belonging to the State by virtue of her sovereignty, within this State, upon which certificates of purchase have been issued, and for which full payment has been made into the State Treasury, are hereby ratified and confirmed; *provided*, the owners of any certificates of purchase for any lands situated in Mission Bay, in the City and County of San Francisco, shall be required to keep open the channel of Mission Creek at the two outlets known as Old and New Channel streets, of sufficient width to serve all purposes of sewerage and drainage, the width of said channels to be determined by the Board of Supervisors of the City and County of San Francisco; and, *provided*, further, that this Act shall not be so construed as to give the owners of any certificates of purchase any control of the city front for wharf or dock purposes, but it is hereby expressly provided that the jurisdiction of the State Harbor Commissioners shall be and is hereby extended along the entire line of said locations to the southern boundary of the City and County of San Francisco; and, *provided*, also, that all the streets and alleys, as laid down on the map made by the City and County Surveyor of said city, (filed with the Senate Investigating Committee of Salt Marsh and Tide Lands, February twenty-sixth, eighteen hundred and sixty-six,) and within the line of segregation, are reserved from the foregoing confirmation, and the same are hereby granted and conveyed in perpetuity to the City and County of San Francisco; and, *provided*, also, that this Act, so far as the said confirmations are concerned, shall be null and void, unless within six months from its passage the owners of the said locations shall quitclaim to the City and County of San Francisco, for school, engine, and other public purposes, lots which shall be equal to ——— average fifty vara lots, to be selected by the City and County Surveyor from the locations in said county.

APPENDIX

The following is a list of the names of the persons who have been appointed to the various positions in the various departments of the Government of the State of New York, since the last session of the Legislature, and who have been sworn in as such officers.

The names of the persons who have been appointed to the various positions in the various departments of the Government of the State of New York, since the last session of the Legislature, and who have been sworn in as such officers.

TESTIMONY

TAKEN BEFORE THE

SENATE SELECT COMMITTEE

ON

Marsh and Tide Lands.

FEBRUARY, 1866.

TESTIMONY.

SACRAMENTO, February 24th, 1866.

Senate Select Committee to investigate Assembly Bill No. 191, met. Present—Messrs. Mizner, Chairman; Senators Belden, Dodge, Heacock, and Evans.

William H. Ford was elected Clerk, and A. J. Rhodes, Sergeant-at-Arms.

Committee then adjourned to meet at the Lick House, San Francisco, on Monday, the twenty-sixth day of February, eighteen hundred and sixty-six, at ten o'clock A. M.

SAN FRANCISCO, February 26th, 1866.

Committee met pursuant to adjournment—all members present.

Communication received from the Hon. H. P. Coon, Mayor of the City, tendering the use of the Chamber of the Board of Supervisors to the committee, which was accepted, with the thanks of the committee.

TESTIMONY OF GEORGE C. POTTER.

The committee being ready for the investigation, the first witness called was George C. Potter, who testified as follows:

I am City and County Surveyor, and a member of the Board of City Engineers. Have been Surveyor since October, eighteen hundred and sixty-one; have followed the profession for twenty-eight years.

Witness presents original map of the City of San Francisco, and proves the copy attested with Numbers One, Fourteen, and Fifteen, containing five hundred and thirty-two acres, were conveyed by the Legislature by special Acts. Other numbers, from Number Two to Thirty, inclusive, now appears of record in my office. Numbers from

Thirty-one to Forty-three, survey made by witness and returned to the Surveyor-General, but not approved by him, represented by Color Number Three, from corner Fourth and Channel streets, following the Act of eighteen hundred and fifty-one or eighteen hundred and sixty-four, on the present city front northerly, and westerly to the charter line of eighteen hundred and fifty, to west of Black Point. There has been no marsh or tide land located, or approved by the Surveyor-General. Surveys from Thirty-one to Forty-three, Surveyor-General's Report, are outside of the line of segregation, and have not been approved by the Surveyor-General. The tide and marsh land conveyed to the Golden City Homestead, and the North San Francisco Homestead, and the South San Francisco Homestead, were worth at the time of the respective legislative grants from one dollar to three dollars per acre, as approved by the Swamp Land Commissioners. The tide land certificates, Two to Thirty inclusive, excepting Fourteen and Fifteen, was worth at the date of said certificate about the same price as the lands granted to homesteads aforesaid.

The above answer does not include Lots Numbers Nine, Seventeen, Sixteen and Eighteen, embracing about one hundred and thirty acres, upon which are situated the woollen mills, a portion of Dow's distillery, and slaughter house. In the vicinity of Brannan street bridge, some portion of slaughter house, and extending to the block in front of the Willows—value of improvements from Mission Creek, about one hundred thousand dollars. The Mission Woollen Mills are built upon marsh and tide lands. The land from Mission Creek, from the mouth, including Survey Nine, Seventeen, Sixteen, and Eighteen, have seen it bare, at low tide, outside of the Long Bridge, on Fourth and Kentucky streets, for its entire length, from high land to high land. The corner of Market and Wood streets is forty-nine feet above high water—and three quarters of the whole city will drain into Mission Creek. It is level from Fifth street to the corner of Harrison, southerly, to the city front; and the extending of the city front, as contemplated by the certificates, would not affect the drainage in the least. The soundings on the official map of the United States survey of eighteen hundred and fifty-nine, in and about Mission Bay, is some two feet less now than it was when the survey was made. It cost between five thousand dollars and six thousand dollars to pile, cap, and plank one fifty vara lot one hundred and thirty-seven and a half feet square. The average rise and fall of the tide in Mission Bay is about six or seven feet. Mission Bay can be dredged, but it would be too expensive to be profitable. The piles driven for the Long Bridge are from thirty to forty feet deep. I do not consider it practicable to dredge Mission Bay, to make the present city front of any avail to commerce. I am Director and stockholder in the Bridge Company, and it has nothing to do with the land. The building of the bridge had nothing whatever to do with the land. I own about one thirteenth of the stock. Locations Nine, Sixteen, Seventeen, and Eighteen, embracing Mission Creek, were mostly surveyed by T. R. Brooks. The only instructions I gave him were to follow ordinary high water mark. No injunctions of secrecy were made. Present value of Certificates from Two to Thirty, with State title, from fifty thousand dollars to seventy-five thousand dollars. Improvements upon land set forth in said certificates, including piling and buildings, may amount to twenty thousand dollars, or more. The whole of the improvements were put on since April, eighteen hundred and sixty-five, at the time of the location of the certificates. I did not know that there was any question as

to title. R. Perry, holder or locator of Certificate Number Thirteen, is my nephew.

On motion, committee took a recess until two o'clock P. M.

Two o'clock, P. M.

Committee met—all the members present.

On motion, adjourned until to-morrow morning, at ten o'clock, to meet at the Chamber of the Supervisors.

TUESDAY, February 27th, 1866.

Committee met pursuant to adjournment. Present—Messrs. Mizner, Chairman; Senators Belden, Evans, Heacock, and Dodge.

GEORGE C. POTTER, RECALLED.

Mr. R. Perry, my nephew, has no interest whatever in the property in question. Corner Seventh and Market streets is thirty-two feet above base; Sixth and Market, thirty-four feet above base; Fifth and Market, twenty-four feet; Fourth and Market, I think, is thirty feet; Third and Market is thirty-five feet; at Fourth and Folsom, Fifth and Folsom, Sixth and Folsom, and Seventh and Folsom, all should be raised, to make good drainage, to the city front. It has been recommended by the Board of Engineers, and the extending of the city front at foot of Fourth, Fifth, Sixth, and Seventh streets, would not interfere with the drainage. Mr. Williams is interested in the certificates, is also interested in the bridge franchise; he owns a little over one fifth; think Mr. Williams subscribed for one-half of the stock in the bridge. The distance to the Potrero is shortened one half by reason of the Long Bridge. That portion of the map representing that portion on which Dow's distillery is located, and all above that on Mission Creek, was made under my direction, from field notes by T. R. Brooks. The map here exhibited is a true copy of the original map. This map embraces only a portion of the property on which Dow's distillery is located. Mission Rock causes a slight curve of the current of the Bay in towards Mission Creek.

TESTIMONY OF T. R. BROOKS.

T. R. Brooks, sworn :

Am an engineer; have been a member of the Board of City Engineers from April fourth, eighteen hundred and sixty-three, up to date. At Mr. M. Potter's request, I commenced at intersection of Center street and Mission Creek. I then went up the line of high tide; run south; followed line of high tide around the head of Mission Creek, and then over to the line of Folsom street. From Folsom street I ran around

the line of Falcon street, that brought me to the line of Mission street; then followed the line of tide down to Folsom street; then followed down the line of Folsom street, by Mr. Potter's directions, to Fourteenth street, or near. Mr. Potter, at that time, was with me. Then followed line of tide down the creek to Brannan and Ninth streets; there, I think, I stopped. Passed Dow's distillery. The lower portion of Dow's distillery property was included, but none of the buildings. Mr. Potter told me to say, if any one asked what I was doing, that I did not know. No reason was assigned for the request. I think he was with me only from Center street to Fourteenth street. If Mr. Potter had not been with me, I should not have run the line as I did, including the Mission Woollen Mills. In regard to drainage, I differ with Mr. Potter in this respect. At the intersection of Harrison and Channel streets to the present water front is about six feet fall. I maintain that if you extend the water front, you render drainage more difficult in proportion to the extension. As Channel street at present exhibits, no change is made by the location of these certificates. Mr. Potter's statement in regard to the grade is correct. Fourth, Fifth, Seventh, Sixth and Wood streets, he stated the same correctly. Fifth street to Harrison being a dead level, as he stated, is correct. I was one of the Board of City Engineers with Mr. Potter in raising the grade in that part of the city, [Witness, on examining map showing proposed extensions, says, in his opinion as engineer, such extension, or any extension of the city front, will materially interfere with the drainage of the city.] The filling up of the city proper, front of Montgomery street, between Pacific and Market, has materially impaired the drainage. If I had laid out the city with a view of filling up Montgomery to East street, I should have raised Montgomery street six, eight, or ten feet to corner of Washington street, and the other parallel streets to correspond. There is no canal or drain like Mission Creek from Montgomery street to city front, between Pacific and Market streets. If there was one there would be no difficulty about drainage. I came to California in eighteen hundred and sixty-one. Do not know, but think the grades were established in eighteen hundred and fifty-five. The tide would rise as high at Mission Creek whether the front was extended or not. It is possible to dredge Mission Bay, but not practicable so as to benefit commerce and navigation in at the bay. Mission Bay is bare, at low tide, the whole length of Long Bridge—so I am told, although I have never seen it. I have been there at low water large, but I never saw it bare. When I was there it was pretty near bare the whole length.

TESTIMONY OF R. T. SINTON.

R. T. Sinton, sworn:

I am an auctioneer and real estate dealer. Came to California in eighteen hundred and forty-eight. The one hundred vara lots sold in eighteen hundred and fifty-seven, sold for twenty-five dollars and one hundred and fifty dollars—the State interest. The actual value of the lots at that time were from four thousand dollars to fifteen thousand dollars, with perfect title. Portions of Blocks Numbers Thirty-eight and Thirty-nine, which were sold by State Land Commissioners in January, eighteen hundred and fifty-five, are outside of the red line, and included

in the location of certificate under consideration. Land in Blocks Nine, Sixteen, Seventeen, and Eighteen, in eighteen hundred and sixty-four, exclusive of improvements, with a perfect title, was worth about four thousand dollars per acre. About two hundred and thirty to two hundred and fifty acres of tide land were sold outside of the red line by State Land Commissioners, in eighteen hundred and fifty-five. It was all of the interest of the State in said lands, most of it being held under the ninety-nine years' lease of the city.

TESTIMONY OF ALFRED BARSTOW.

Alfred Barstow, sworn:

I reside in San Francisco; am Secretary and stockholder in the Mission Bridge Company; was Secretary at the time the books of the company were opened. Mr. Williams agreed to subscribe to one half of the stock. He paid assessments on one half before the stock was actually subscribed for on the books. It must have been in December, eighteen hundred and sixty-four, or January, eighteen hundred and sixty-five. The stock had been subscribed for and bridge built before I knew anything about these locations. Asked Mr. Swett who he was driving piles for, but he would not tell me. Have no interest whatever in the land certificates under consideration. So far as I am concerned, the building of the bridge had nothing to do with the improvements of the land located. I own one hundred and eighty shares of the stock in the Bridge Company. As soon as I learned of the location of these certificates, I supposed that was the reason Mr. Williams took stock in the bridge. The entire cost of the bridge and connections is some forty-six thousand dollars.

TESTIMONY OF S. H. PARKER.

S. H. Parker, sworn:

I own twenty shares in the Mission Bridge Company. My interest had nothing to do with the improvement of the land. I bought in after the bridge was finished. I have no interest whatever in the matter.

TESTIMONY OF WILLIAM SHERMAN.

William Sherman, sworn:

I am President and stockholder in Mission Bridge Company; was an original subscriber. My interest had nothing to do with the improvement of lands. I own one hundred shares of the stock. My opinion is that if Mr. Williams had not subscribed at the time he did the bridge

would not have been built. The franchise was about to expire, and we had but a little time left.

The following-resolution was adopted:

Resolved. That all the testimony in connection with this investigation close at eleven o'clock A. M. February twenty-eighth, and that the claimants under the certificates, or their agent or attorney, have forty-five minutes to present their case; and that those opposing have one hour; and the claimants fifteen minutes to reply.

Committee took a recess until one o'clock P. M.

ONE O'CLOCK P. M.

Committee met at one o'clock P. M.—members all present.

T. R. BROOKS, RECALLED.

I am accused of having some interest in the certificates of location. I have not; never had one cent of interest whatever. The highest point of Potrero Nuevo is about three hundred and twenty-six feet above high tide. There is plenty of filling at Potrero to fill up the whole Bay. Filling along the line of Long Bridge first, and then filling from the inside, would not interfere with the water front.

TESTIMONY OF M. D. CALLAHAN.

M. D. Callahan, sworn:

Reside in the city; am stockholder in Pacific Glass Works, located on the south side of Mission Bay. To the swamp land we have no title. Got franchise for a wharf two years ago. Think we were authorised to build out twenty feet in the water.

TESTIMONY OF A. J. GUNNISON.

A. J. Gunnison, sworn:

Location Three and part of Lot Four is a part which is known as Bernal Ranch—about two hundred acres of those two locations are known as Bernal Ranch. The grant was dated eighteen hundred and thirty-nine, and confirmed by the Legislature in eighteen hundred and forty—long before California belonged to the United States. The claim was confirmed by the United States Supreme Court, and patent issued December thirty-first, eighteen hundred and fifty-seven. It was approved by the

Judge of the Twelfth District Court, and recorded in the City of San Francisco, in eighteen hundred and fifty-eight. The survey was made by J. C. Hayes, United States Surveyor-General of California, August fourth, eighteen hundred and fifty-seven, under this title, with other pieces of land adjoining, and was owned by Harvy S. Brown; was subdivided into lots twenty-five by seventy, and streets laid off. They were then sold, and now owned by some three hundred or four hundred different individuals. The soil is covered with grass, and cattle feed over it a part of the year.

TESTIMONY OF M. J. KING.

M. J. King, sworn:

I am a draughtsman in the City and County Surveyor's office. The map was drawn by me at the request of Mr. Potter, the City and County Surveyor, whose office I am in, from field notes made by Mr. Wilcox, Mr. Boardman, and, I think, Mr. Brooks. These parties were in the employ of the City and County Surveyor for that purpose. The map conforms to the original field notes as near as the plats will allow. I do not know of any material change from the original field notes. Most of the work was done in regular hours; some portion of it was done on Sunday. Mr. Potter was in a hurry to have it done, is the reason I worked on it Sunday. I was requested by Mr. Potter to say, if any one asked what map I was making, to say to them I did not know. I did the work at the request of Mr. Potter; it was done in his office. The map was kept in the office among the other maps—not private, as far as I know. I never was before or since put under injunction of secrecy when making a map. The office always furnishes information to any one who comes along. No one asked for information concerning this map, as far as I know.

GEORGE C. POTTER, RECALLED.

Have frequently had difficulty in making surveys on account of conflict of title with claimants, and have been driven off.

TESTIMONY OF A. J. MORRELL.

A. J. Morrell, sworn:

I was offered four thousand dollars for a piece of land on Brannan and Fourth streets. The land in Mission Bay was worth, two years ago, five hundred dollars per acre. The water land granted to the Golden City Homestead was worth from two hundred dollars to five hundred dollars per acre. Two years ago it cost from fifteen to twenty dollars to drive each pile and capping on the south side of Mission Bridge.

TESTIMONY OF L. B. MASTICK.

L. B. Mastick, sworn :

Land in Mission Bay was worth, two years ago, from five hundred dollars to one thousand dollars an acre. Land immediately adjoining, I know, sold for six hundred dollars an acre about two years ago—part being State title, and part Peter Smith title. It would be an improvement to extend the water front in Mission Bay.

TESTIMONY OF S. S. TILTON.

S. S. Tilton, sworn :

I am a member of the Board of State Harbor Commissioners; have been since eighteen hundred and sixty-three; am familiar with the condition of the harbor; am well acquainted with lands on Mission Creek. It is a favorite place for steamers and vessels laid up, and for small craft vessels. I should advise that the land located should be reserved and protected by the State for commercial purposes. It may be five or ten years before they become valuable.

TESTIMONY OF H. S. BROWN.

H. S. Brown, sworn :

I am not familiar with the property in question. Location Number Nine has been sold by the State Land Commissioners.

R. H. SINTON, RECALLED.

Two years ago no such thing in market—merely a nominal matter. The land outside the red line in Mission Bay was worth one thousand dollars per acre. Location Number Nine has been sold by the State Harbor Commissioners.

TESTIMONY OF J. B. MANROE.

J. B. Manroe, sworn :

Have been dealing in property seventeen years. Two years ago, land inside old red line sold for one thousand dollars an acre.

TESTIMONY OF J. P. SWETT.

J. P. Swett, sworn :

I am a contractor for building wharves. The cost of piling on the right side of Long Bridge was eighteen dollars per pile. There were three hundred piles—piles not capped. I have no interest whatever in the land.

TESTIMONY OF W. H. BRYAN.

W. H. Bryan, sworn :

I am civil engineer. Commenced surveying in eighteen hundred and thirty-two, and followed the same until eighteen hundred and fifty-eight, in United States, District of Columbia. No interest whatever in matter in question. I supposed I conveyed my interest to Mr. Williams. He asked me to let him use my name to locate some swamp and overflowed land. I afterwards transferred my interest to him, as I supposed.

TESTIMONY OF MILO HOADLEY.

Milo Hoadley, sworn :

I am surveyor and engineer since eighteen hundred and thirty-eight; I was a member of the Board of Engineers at its organization. My opinion is that fifty acres of the Bay should be reserved for dock and other commercial purposes. By reserving basin, in my opinion, drainage could be effected without raising the front grade. State title to land two years ago was worth two thousand dollars. For filling up the whole bay would cost three hundred or four hundred dollars for fifty vara lot.

TESTIMONY OF J. T. McDOUGAL.

J. T. McDougal, sworn :

I purchased a portion of land in Location Number Nine, and I think in Location Number Seventeen, at State sale, in eighteen hundred and fifty-seven, called the Johnson sale. January, eighteen hundred and fifty-five, I purchased Blocks Thirty-eight, Thirty-nine, and Forty, and a portion of Block Forty-one. The original sale I purchased myself. The consideration for the sale of eighteen hundred and fifty-seven was two thousand eight hundred dollars, and auctioneers' fees of three hundred dollars. At the sale of one hundred vara lots of Mr. Sinton there were many people in attendance and great competition. I have paid taxes on the property—State, city and county—since eighteen hundred and fifty-seven.

TESTIMONY OF JOHN CENTER.

John Center, sworn :

I went there in eighteen hundred and forty-nine, and have been there ever since; have seen high tide up to Howard street. In eighteen hundred and fifty-seven the Land Commissioners under J. Neely Johnson sold all the land on both sides of Mission Creek, from the mouth of Mission Bay, including the Mission Woollen Mills. At the time of the sale of eighteen hundred and fifty-seven I bought the block on which the Mission Woollen Mills now stands, for sixty-seven dollars. I paid one thousand five hundred dollars for my interest in the sale at that time of the block of the Mission Woollen Mills. Three million dollars will not fill up the grade from the Willows to Fourteenth street. I sold originally to the Woollen Mills a little over two acres. I sold the whole block of the Mission Woollen Mills for three thousand dollars—which, at that time, was a fair valuation. Two thousand or three thousand people are now living upon the land sold under Johnson's sale. The lands on Mission Creek, with present grade, are not worth one cent. With a proper system of grading, the property sold at Johnson's sale would be worth two thousand dollars per acre, and in some localities worth double.

TESTIMONY OF DONALD McCLELLEN.

Donald McClellen, sworn :

I am proprietor and manager of the Mission Woollen Mills. From six hundred thousand dollars to seven hundred thousand dollars have been invested in the mills. We derived title from Mr. Center. The land cost, instead of three thousand dollars, as stated by Mr. Center, five thousand two hundred dollars.

On motion, the time in the resolution was extended until to-morrow, March first, at ten o'clock.

The argument of counsel for applicants heard, and on motion adjourned until to-morrow, March first, at ten o'clock.

MARCH 1st, 1865.

Committee met, pursuant to adjournment—members all present.

Admitted that since eighteen hundred and forty-nine there has been great conflict of title in real estate in San Francisco.

TESTIMONY OF JOHN C. MERRILL.

John C. Merrill, sworn :

I hold under city and State title; now leased to Chinese for raising ducks and vegetables, and is valued at twenty-five thousand dollars.

TESTIMONY OF PETER BUSH.

Peter Bush, sworn :

I hold property in Location Seventeen, with city and State title; property worth eighteen thousand dollars; it is a fifty vara lot; owned it four years. I paid for it three thousand dollars; improvements, twelve thousand dollars; small house and other improvements.

TESTIMONY OF F. MASON.

F. Mason, sworn :

I am interested in Golden Gate Homestead. At the time of the legislative grant, it was appraised at three dollars per acre by the State Land Commissioners. At that time we thought the property was worth a great deal more to us. I would sell a block now for one thousand five hundred dollars. Never had an offer for it. Its value is entirely prospective. There are five of the Swamp Land Commissioners; three or four concurred in the appraisement. No inducement was held out to Commissioners to appraise the property at three dollars.

TESTIMONY OF G. K. FITCH.

G. K. Fitch, sworn :

I can say, generally, that I can justify anything that has been said in the *Bulletin*. I knew, previous to last election, that there were parties at the last election trying to elect persons to the Legislature who favored the scheme. I have general reasons for thinking that influential members of the Legislature have been tendered interests in the scheme; I have no special charge, although I have heard of members being approached. I might furnish a witness that the brother of a high State official was offered an interest, but refused it. I do not know of any member of the Legislature having been offered an interest.

TESTIMONY OF S. P. DEWEY.

S. P. Dewey, sworn :

I own block between Third and Fourth streets. It would be affected by the extension of the city front. I have no interest whatever in the extension. I have had an offer to become interested. The value of that property, before the building of the bridge, was prospective. My opinion is, that all that property is valuable, up to the red line, for commercial purposes; that all the water property to the line of segregation should be disposed of and go into private hands. No interest whatever, now or prospectively.

TESTIMONY OF C. H. WESTON.

C. H. Weston, sworn :

I reside here. I do not know of any land being located in my name. Mr. Williams asked me if he could use my name in locating public land. I signed afterwards a paper for him, and made an acknowledgment.

TESTIMONY OF JAMES DOWS.

James Dows, sworn :

I own property on Mission Creek—a distillery; have expended one hundred thousand dollars, and it is worth no fifty thousand dollars. There was a party proposed to convey to me within ten days some property; perhaps it would be improper for me to say who the person was. I gave bond for a deed. I prefer not to name the party. I paid nothing for the deed.

The evidence here closed, and Eugene Casserly, Esq., counsel for the State, appeared and made the closing argument.

On motion—

Resolved, That the thanks of the committee be extended to Mayor Coon and the Board of Supervisors of the City and County of San Francisco for their courtesy in offering the use of their hall to the committee, and for attentions and facilities afforded to the committee during the prosecution of its investigation.

On motion, the committee adjourned, to meet to-night at seven o'clock on board the Sacramento boat.

AFFIDAVIT OF BOENT SEGUINE.

To Honorable L. B. Mizner, Chairman of the Committee of the Legislature of the State of California to inquire into the certificates of purchase of swamp lands, etc. :

The undersigned, your petitioner, respectfully represents, that he is the owner of Blocks Numbers One Hundred and Sixty-eight, One Hundred and Sixty-Seven, and One Hundred and Sixty-six, as shown by the map hereto attached, marked "Ex. A.;" that he, and others claiming under him, are the owners of the entire lands lying southwest of the "red" line on said map designated; that said red line is located as per the red line map, bounding the water lot grant, now in the office of the County Surveyor of the City and County of San Francisco; that the whole of said lands embraced in the lines marked "line of sale, Johnson et al," were sold by William Neely Johnson et al, Commissioners; that said Commissioners, as your petitioner is informed and believes, had no authority to sell outside of the red line as laid down on the said red line map; that the undersigned has been in possession of the whole of said land set out in said diagram since the first day of August, eighteen hundred and fifty-three; that he has actually resided on the premises he or

those under whom he claims since the last date; that he claims adversely to the said purchasers under the sale of William Neely Johnson et al, Commissioners; that none of said purchasers have made any improvements on the said premises, and none of them have ever had possession of any portion of the same; that your petitioner now resides on said premises, with his family, and has improvements on the same in the way of fences, dwelling house, etc., etc. That a portion of his said lands are covered by the certificates of purchase now under investigation, and that the holders of said certificates have conveyed to your petitioner their title to the same; and your petitioner prays that your committee will report in favor of the confirmation of said certificates of purchase, and that you will not report in favor of the sales made by William Neely Johnson et al, Commissioners.

BOENT SEGUINE.

Subscribed and sworn to before me, this third day of March, A. D. eighteen hundred and sixty-six.
JOHN GORMAN, Notary Public.

SEAL.

Attached to this affidavit was a map marked "Exhibit A."

PETITION OF J. B. HOUGHTON, AND OTHERS.

To Messrs. Mizner, Belden, Evans, Heacock, and Dodge:

GENTLEMEN:—As you are now engaged in the examination of the subject connected with locations of salt marsh and tide lands in Mission Bay and on Mission Creek, in San Francisco County, for which certificates of purchase have been issued, we beg leave to state that we, as settlers, hold rights by location and improvement on Mission Bay and Mission Creek, and that we have compromised with the holders of those certificates by giving them our possession and accepting from them title to our property. Therefore we ask that their certificates of purchase may be confirmed, that we may have title to our property, so that we can go on with our improvements. As in duty bound, we will ever pray.

J. B. HOUGHTON,
C. L. HOUGHTON,
P. E. FARRELL,
P. T. POSTEL,
W. A. TUBLETT,

JOHN GRAHAM,
per Houghton, agent.
N. CRANNEL,
JOHN CLUHFF,
BYRON PINKHAM.

SAN FRANCISCO, February 27th, 1866.

I have sold to the following persons part of my location in Mission Bay, for which I have received a valuable consideration in cash: John St Clair, and Mr. Avery.

J. C. PINKHAM.

PETITION OF J. C. PINKHAM, AND OTHERS.

To Messrs. Mizner, Belden, Evans, Heacock, and Dodge:

GENTLEMEN:—As you are now engaged in the examination of the subject connected with locations of salt marsh and tide lands in Mission

Bay, and on Mission Creek, in San Francisco County, for which certificates of purchase have been issued, we beg leave to state that we, as settlers, hold rights by location and improvements on Mission Bay and Mission Creek, and that we have compromised with the holders of those certificates by giving them our possession and accepting from them title to our property. Therefore we ask that their certificates of purchase may be confirmed, that we may have titles to our property, so that we can go on with our improvements. As in duty bound, we will ever pray.

J. C. PINKHAM,
WILLIAM TUBLETT,
GEORGE A. PINKHAM,
RICHARD SIEBE,
R. T. RUNDLE,
J. F. PENNY,
W. W. LINDLEY,
JOHN J. BRADY,

JAMES MCGURK,
H. McMULLIN,
(per J. McGurk,)
WILLIAM BLOOMER,
S. W. BORING,
SAL HAAS,
L. MILLER & Co.

SAN FRANCISCO, February 27th, 1866.

PETITION OF JOHN CENTER.

To Hon. L. B. Mizner, Chairman, and Gentlemen of the Senate Committee:

GENTLEMEN:—I consider it proper to state to you that I have received from H. F. Williams, Esq., his conveyance for the lands upon which the Mission Woollen Mills stand, for their benefit, and also other lands along Mission Creek, which I have improved and possess, or have sold to others, for their protection, all such lands being marsh and tide lands, and located upon by certificates of purchase held by said Williams, all of which has been done to my entire satisfaction. Any action of the Legislature to quiet title to these lands will give confidence to capital, increase the improvements thereon, and be beneficial to the State at large.

Most respectfully yours,

JOHN CENTER.

SAN FRANCISCO, March 2d, 1866.

PETITION OF CHARLES V. STUART AND H. E. HEAD.

To the Hon. L. B. Mizner, Chairman, and Gentlemen of Senate Committee:

GENTLEMEN:—We, the undersigned, property owners along and adjacent to Mission Bay, in the City of San Francisco, and covered by certificates located by H. F. Williams and others, having examined Assembly Bill No. 191, as amended to confirm the locations of said certificates, respectfully ask your committee to report favorably to said bill as amended—believing, as we do, that its passage will operate beneficially in quieting titles, and thereby enhancing the value of the property.

Respectfully, yours,

SAN FRANCISCO, March 1st, 1866.

CHARLES V. STUART,
H. E. HEAD.

Letter of the State Geologist

RELATIVE TO THE PROGRESS OF THE

STATE GEOLOGICAL SURVEY,

DURING

THE YEARS 1863-64.

LETTER.

SAN FRANCISCO, January 1, 1866.

To His Excellency, F. F. Low,
Governor of California:

SIR:—The Legislature, during the session of eighteen hundred and sixty-three and eighteen hundred and sixty-four, re-established the office of State Geologist, then about to expire by constitutional limitation, by passing the following Act:

"AN ACT

TO CREATE THE OFFICE OF STATE GEOLOGIST, AND TO DEFINE THE DUTIES THEREOF.

"The People of the State of California, represented in Senate and Assembly, do enact as follows:

"SECTION 1. J. D. Whitney is hereby appointed State Geologist. He shall be commissioned by the Governor, and it shall be his duty, with the aid of such assistants as he may appoint, to complete the geological survey of the State, and prepare a report of said survey for publication, and superintend the publication of the same. Such report shall be in the form of a geological, botanical, and zoological history of the State; and the number of copies of each volume to be printed, and the style, form, maps, diagrams, or illustrations to be contained therein, or to be printed separately, shall be determined by the State Geologist; and said report, when published, shall be sold upon such terms as the Governor and Secretary of State may decide upon, and the proceeds of such sales shall be paid into the Common School Fund of the State.

"SEC. 2. It is hereby made the duty of the State Geologist and his assistants to devote the time not necessarily required in the preparation and superintendence for publication of the reports provided for in section one of this Act, to a thorough and scientific examination of the gold, silver, and copper producing districts of this State, and to such scientific and practical experiments as will be of value in the discovery of mines and the working and reduction of ores.

O. M. CLAYES.....STATE PRINTER.

"SEC. 3. The following sums of money are hereby appropriated, out of any money in the State Treasury not otherwise appropriated, for the prosecution of the geological survey of the State, and for the sixteenth and seventeenth fiscal years: For salary of the State Geologist, nine thousand dollars, to be drawn monthly on the last day of each month; for salary of two assistants, six thousand six hundred dollars, to be drawn in the same manner as the salary of the State Geologist; for publication of two volumes of report, six thousand dollars; for office rent, and expenses of survey in mining districts, and experiments on ores, and all incidental expenses of work, ten thousand dollars, to be drawn one half each fiscal year.

"SEC. 4. This Act shall take effect immediately."

The above Act was approved by the Governor, April fourth, eighteen hundred and sixty-four.

Previous to the passage of this Act the following sums had been appropriated for the continuance of the survey:

At the time of the passage of the original Act.....	\$20,000
By the Legislature of 1860-61.....	15,000
By the Legislature of 1861-62.....	15,000
By the Legislature of 1862-63.....	20,000
Making in all.....	\$70,000

Besides this, three thousand dollars was appropriated by the Legislature of eighteen hundred and sixty-one and sixty-two for printing one volume of the report.

At the time the Legislature of eighteen hundred and sixty-three and sixty-four met the new Constitution of the State was in operation, and the sessions being now biennial, instead of annual, it was necessary to provide funds for continuing the survey for two years. Unfortunately the State was at this time in great trouble, the drought of the two previous winters having most seriously affected both the agricultural and mining interests, and given rise to a widespread feeling of alarm. It was therefore with difficulty that any appropriation could be secured for the survey, and that which was obtained was far from being adequate to the carrying on of the work on a scale commensurate with its importance. Indeed, it was but just enough to keep the survey alive, in addition to continuing the preparation of the materials already in hand for publication. The appropriations for the survey in the Act cited above, added to those of previous Legislatures, make the total amount provided for the fieldwork and salaries in all departments, from the commencement of the survey up to June thirtieth, eighteen hundred and sixty-six, ninety-five thousand six hundred dollars, or a little less than sixteen thousand dollars a year on the average. Besides this, however, there has been nine thousand dollars appropriated for publication, which should not be charged to the survey, as this amount will be refunded to the State by the sale of the volumes published, it being provided in both Acts that our publications shall be sold and the money paid into the Common School Fund.

The course and progress of the geological and topographical fieldwork

of the survey, up to the end of the year eighteen hundred and sixty-three, has already been made known in the letters addressed to the Governor from year to year. A resumé of the movements of the various parties will also be found in the preface of the first volume of the geology of the report.

In the summer of eighteen hundred and sixty-four, a small party was fitted out to commence the exploration of the Sierra Nevada, it being my intention to work up the geology and topography of that great chain, from the south towards the north, as accurately as our time and means would allow. This party consisted of Messrs. Brewer and Hoffman, accompanied by Messrs. King and Gardner, volunteer assistants in the geological and topographical departments. They took the field in May, and proceeded across the plains of the San Joaquin to Visalia, from which point they entered the Sierra, ascending King's River to its source, and exploring the whole region about the headwaters of that and Kern River. Thence they made their way across the range by a pass over twelve thousand feet high, passed up Owen's Valley, ascended the west branch of Owen's River, crossing the Sierra again at an altitude of twelve thousand four hundred feet, and thence descending to the head of the San Joaquin River. The exploration was continued through the region of the headwaters of that stream and the Merced, connecting the reconnoissance with that of eighteen hundred and sixty-three around the sources of the Tuolumne. The whole expedition occupied about three months, during which time the geography and geology of a district including an area of over ten thousand square miles were for the first time explored, the whole region having previously been entirely unknown. The results prove to be of the greatest interest, disclosing the fact that this was the highest part of the Sierra Nevada, and that it embraced the loftiest mountains and the grandest scenery yet discovered within the territory of the United States. For the details of this reconnoissance reference may be made to Chapter X of Volume I of the Geology, which has just been published by the survey.

At the close of this campaign Professor Brewer relinquished his position on the survey, and left California to enter on his duties as Professor in the Sheffield Scientific School of Yale College. He still remains, however, charged with the direction of the botanical department of the survey, as will be noticed further on, under the head of botany.

Messrs. King and Gardner continued their explorations northward of the field of their labor during the summer, by making a survey and map of the Yosemite Valley, under authority of the Commissioners appointed to take charge of the tracts embracing that valley and the Big Tree Grove of Mariposa County, recently conveyed to the State of California by the United States.

In the spring of eighteen hundred and sixty-four, Mr. King had commenced the detailed exploration of the principal metalliferous belt of the Sierra Nevada, by examining the geology of the Mariposa estate and its vicinity. This work was continued by Mr. Rémond in the summer of eighteen hundred and sixty-five, and carried from the Merced to the Stanislaus River, a careful geological and geographical map of that region having been furnished by him as the result of his labors. In addition to this he visited and examined seventy-seven gold mines, besides many other localities of other metals, and sixty-six quartz mills, of which twenty-three were in operation. This work, which is the continuation of that done in the Sierra during the previous year, forms the first contribution to our detailed exploration of the mining districts of

California; this exploration we expect to continue as soon as it is in our power to take the field again in the Sierra.

In the meantime, Mr. Gabb has left for the southern part of the State, to make a thorough examination of portions of the Coast Ranges, where the occurrence of bituminous matter in large quantity has, especially during the last twelve months, been exciting much attention.

The above is all the geological fieldwork which it has been in our power to undertake, with the extremely limited appropriation made by the last Legislature, a portion of which had necessarily to be used in the preparation of the "Geological, Botanical, and Zoological History of the State," provided for in the Act under which we are now at work. What progress has been made in the preparation of our results for publication, in conformity with the Act, will now be stated under the appropriate heads.

I.—TOPOGRAPHY.

In addition to the maps previously described as forming a portion of the results of our topographical work, we have commenced a new one, which embraces the most valuable and important part of the State, and covers the area on which, as near as can be ascertained, somewhat over nine tenths of the population are now residing. This map extends from the parallel of thirty-six degrees and thirty minutes to that of forty degrees and thirty minutes, and from the one hundred and eighteenth to the one hundred and twenty-third meridian, thus including the whole Sierra from Owen's Lake north, to Lassen's Peak, the Coast Ranges from Point Sur and New Idria on the south, to Clear Lake on the north. It also includes the western portion of Nevada. The scale of this map is six miles to the inch, and its size four and a half feet square, so that it can be engraved to four sheets. On this all the topographical work of the survey has been compiled, together with such materials of an authentic character as could be obtained from other sources, especially from the offices of the United States Surveyor-General, and the United States Coast Survey. The work of Mr. Wackenreuder in the high Sierra, which was continued for a short time during the summer of eighteen hundred and sixty-four, forms an important portion of the new material incorporated in our map of Central California. The drawing of this map is considerably advanced, and has been executed by Mr. Hoffman, the topographer of the survey, in the most creditable manner; if ever completed, it will not only form a highly important contribution to the geography of the State, but will be of great practical value. A considerable amount of fieldwork, however, remains to be done in the region which it covers. The extreme northwestern portion, including the region north of Clear Lake, has never been even approximately mapped, and portions of the Sierra, especially the region between the Mono and the Silver Mountain Passes, and that north of the Henness Pass, have never been instrumentally surveyed.

The "map of the region adjacent to the Bay of San Francisco," and that of the vicinity of Mont Diablo, are ready to be placed in the engraver's hands, and the last named one will be photolithographed as soon as an establishment for doing this kind of work by the "Osborne process" is set in operation in this country, Mr. Osborne being at present in Boston for this purpose. Some difficulty has been met with in finding an artist who could be trusted to do justice to the bay map; but the close of the war and the contraction of the currency will, it is to be presumed, relieve our engravers on copper and steel from a large portion of the

calls which have for the last four years been made upon them, and it is probable that this map will be put in hand immediately.

The preparation of a map of the whole State, on a scale of six miles to the inch, was formerly contemplated; but of later years we have considered that this was an undertaking of too extensive a character to meet with encouragement from the Legislature. Should the survey be continued for three or four years longer, we should be able to furnish a general map of California on a scale of ten or twelve miles to the inch, which would far surpass in value and accuracy anything now existing. Still, many years must elapse before correct maps of the almost unknown southeastern and northwestern corners of the State will be had. It is certain that the United States Land Office surveys of the southern part of the State do not give any idea of its topography, and it is difficult to understand how the town and section lines can have been run there, and so little idea of the topography obtained; while the extremely rough and mountainous character of Del Norte, Humboldt, and Trinity Counties, now to a large extent in possession of hostile and warlike Indians, will render it difficult to execute any detailed geological or geographical work in that region, for a long time to come.

II.—PHYSICAL GEOGRAPHY.

Our materials in this department are constantly accumulating; but we have not yet begun to arrange them for publication. The barometrical measurements of mountains have been continued, and instruments have been carried to greater heights than ever before were attained within the limits of the United States. We await with much interest the elaborate report of Colonel R. S. Williamson, of the United States Engineers, to the Topographical Bureau, on the subject of the laws governing the fluctuations of the barometer on the Pacific coast. This work will be of great importance to science, and of especial value to us, as enabling us to use our own observations more intelligently than would be possible unless we had the means of carrying on a series of investigations similar to those of Colonel Williamson, and on which a large amount of time and labor would have to be expended. The subject of the distribution of the forest vegetation of the State will occupy a chapter in our volume of Physical Geography, and it is hoped that we shall be able to illustrate it with a map showing the range of the different groups of species.

III.—GENERAL GEOLOGY AND PALÆONTOLOGY.

The volume just issued, which is entitled "Geology—Volume I; a report of progress and synopsis of the fieldwork from 1860 to 1864," will be a sufficient exhibit of our progress in the investigation of the geological structure of the State.

It is to this department of general geology that up to the present time by far the greater portion of our attention has been given, since the first thing required in a geological survey is a knowledge of the general geological structure of the State, the age of the various formations which occur in it, and their range and extent, or the position which they occupy on the surface, and their relations to each other. Each group of strata, thus determined by its lithological peculiarities, and by the fossils which it contains, is then to be laid down upon the map in the position which its outcrop occupies on the surface. The general

character of the minerals and ores which occur in each formation or group of strata having been first determined, the details of their mode of occurrence, their relative abundance, and the facilities which may exist in each separate district for making them economically available, must, after the preliminary general work has been done, be the object of more special and detailed examinations. It is not, however, the business of a geological surveying corps to act to any considerable extent as a prospecting party; to do this would require that we should confine our operations to a very limited area. The labor of the whole corps for an entire season would not suffice to thoroughly prospect more than a few hundred square miles in a very rich mineral region, and we should often have to engage in expensive mining operations to decide what was really of permanent value. It is our task, rather, to limit the field of research, and to show to others where their labor will be best bestowed, preventing foolish expenditure of time and money in searching for what our general geological investigations have determined not to exist in sufficient quantity in certain formations to be worth working. Especially in the first years of our work in a State of such immense area as California, our labors must have more the character of a geological reconnoissance than of a detailed survey.

In the department of palæontology one volume has already been published. This contains, in the first section, a description of the carboniferous fossils of Bass' Ranch, the only locality where any well preserved organic remains of that age have been found within the State. The second section is devoted to the fossils of the triassic rocks, including all which have thus far been discovered in California and on its borders. While we have abundant evidence that a formation equivalent in geological age to the Alpine trias, or the beds of Hallstadt and St. Cassian, occurs over a vast area, and forms an important part of the metalliferous belt of the Pacific coast, and probably on both sides of the Sierra, and while fossils of this age have been found at several localities within the borders of California, our most ample supply of well preserved specimens has come from the Humboldt mining district in Nevada. Hence we have included in our descriptions of the triassic fossils those of that region, although some among them have not yet been found in California.

The third section of the volume of palæontology is devoted to the jurassic fossils of the Sierra Nevada, or, rather, to such as had been discovered at the time of its publication. These fossils are all from the localities near Genessee Valley, noticed in section eleven, Chapter IX of Volume I, of the Geology. At the end of that volume a few pages will be found containing descriptions of the jurassic fossils of the auriferous slates in Mariposa County, from the localities discovered by Mr. King, and in close proximity to one of the great quartz veins of the mining region proper. This paper, by Mr. Meek, and which is illustrated by a steel plate, was published in the geological volume to prevent delay, as the question of the geological age of the auriferous slates is one of great interest, and some time will necessarily elapse before the second volume of the palæontology will be ready for publication. In the meantime, and during the past year, Mr. Rémond has traced the belt of fossiliferous jurassic rocks from the Merced River to the Stanislaus, finding several genera and species different from those previously obtained from this formation. These, together with such other fossils of this age as may hereafter be discovered in the State, will be described and published in the second volume of the palæontology.

The fourth section of the volume in question is devoted to the creta-

ceous fossils, and forms considerably the larger portion of it, as the rocks of this age occupy a very extensive area on the Pacific coast, and are rich in fossils at many localities. A reference to the section in question will show how large an amount of material, new to science, has been derived from the rocks of the cretaceous series, of the existence of which on this coast previous to the commencement of our work but little was definitely known.

The first and third sections of the palæontological volume were prepared by Mr. Meek; the second and fourth by Mr. Gabb. The plates are thirty-two in number, partly engraved on steel, and partly on stone, from drawings furnished by the authors of the text. The volume is printed and bound in a very superior manner, and is sold at three dollars and fifty cents per volume, (in cloth,) as determined by yourself and the Secretary of State, which is about the cost of the mechanical execution of the edition. The text is stereotyped, and one thousand copies have been printed, and bound in various styles. A statement of the number of copies of each volume of the publications of the survey which have been sold, and of the number remaining on hand, will be furnished to the Treasurer of State at the close of each fiscal year; and, at the same time, the money received from the sales will be paid over to that officer, unless otherwise directed by the Legislature, to be placed by him in the Common School Fund of the State. The stereotype plates of the volume remain for the present in charge of the printer.

The first part of Section I, Volume II, of the Palæontology, is in the hands of the printer. It contains the first portion of the descriptions of the tertiary invertebrate fossils, by Mr. Gabb, and will soon be in circulation. The plates to accompany this article, thirteen in number, are drawn, and will soon be put in hand. A considerable amount of new material from rocks of the cretaceous age is also on hand and partly prepared for the printer and engraver. The vertebrate fossils collected by the survey have been referred to Doctor J. Leidy for description. They will be worked up by him for the second volume of the Palæontology, and in the meantime a preliminary notice of them has been received, containing descriptions of several new species of the fossil horse, rhinoceros, and other large animals, and a catalogue of the whole collection, which comprises remains of the mastodon, elephant, tapir, bison, a reptile allied to the ichthyosaurus, crocodile, and other animals of great interest. The fossil plants of the survey will be worked up by Doctor Newberry, to whom portions of our materials in this department have already been referred. The diatoms and other microscopic forms have been submitted to Mr. A. M. Edwards, of New York. The fauna and flora of the tertiary rock, with the additional matter belonging to the lower formations, which has been and will be obtained before the close of our work, will furnish ample material for a second volume in the palæontological department.

IV.—ECONOMICAL GEOLOGY, MINING, AND METALLURGY.

In the geological volume just published, a considerable amount of information will be found in regard to the economical geology of the State; but all the detailed descriptions of mining regions and mining processes have been reserved for the volume or volumes specially devoted to these subjects. We have now arrived at a stage of the

survey when, the preliminary reconnoissance of the State being well advanced, we can take up the mining districts, work up the details of their geology, and investigate the quantity, quality, and mode of occurrence of their ores. We need, however, a laboratory, where the necessary chemical work of this and other branches of the survey can be done, under my immediate personal supervision.

Mr. Ashburner's investigations of the quartz mines and mills of the State were the commencement of work in this department, and, as far as they go, they form an important contribution to an understanding of the mining interests of California. The tabular statement, prepared by him to exhibit the principal facts connected with the auriferous quartz mills running in eighteen hundred and sixty-one, will always be valuable for reference. It has been printed in the appendix to the volume of geology, for convenient reference.

The work of investigating in detail the geology of the mining regions of the State has been begun, but will require a long time for its completion, so vast is the field and so important are the interests with which this branch of our work is connected. We can do much for the benefit of the people in this department if properly supported by the Legislature; but hasty and superficial work will be of little use. Too large a portion of the resources of California has already been thrown away in foolish mining enterprises, and although the career of reckless speculation may seem to be checked at present, yet the same scenes of wild excitement will be repeated again and again unless reliable information becomes widely disseminated among the people. It is fully time that a stop should be put to a course which has already materially retarded the progress of the State, and which, if persisted in, will bring utter financial ruin upon us.

V.—BOTANY.

The botanical department of the survey has been and still continues under the charge of Professor Brewer. From his investigations it appears that about one thousand six hundred species of flowering plants, (including the higher orders of the flowerless,) and over one hundred species of mosses, have been found growing naturally within the limits of the State or on its immediate borders. In the orders below the mosses in the scale of organization the data are still too imperfect to allow a probable estimate to be made of the number of species.

The collection made by the survey contain about seventy-four per cent of all the species known to exist in this State, and about five per cent of them are new to science, and eleven per cent new to the State—that is, not before found within its borders.

Professor Brewer is now engaged in preparing a report which will be in fact a "Manual of the Botany of California," containing as full descriptions of all the plants of the State as can be given in one volume. Of this the general plan and arrangement will be similar to those of the "Colonial Floras," issued under the auspices of the British Government. Full reference and synonyms will be given of all the species peculiar to the Pacific States, and which occur in California; and a chapter will be added on the general distribution of the plants of the State and their economical value. This volume will form a suitable text book to be used in the schools of the Pacific coast in connection with "Gray's Lessons in Botany" or some other elementary work of a similar character; and it may be added that this science cannot be taught in California until such a manual as the one proposed has been prepared, since the descriptions

of the plants of the State are at present scattered through hundreds of volumes, most of which are quite inaccessible to any except the very few who are furnished with costly and extensive botanical libraries.

In preparing this volume, a task in which considerable progress has been made by Professor Brewer, he will have the aid of several of the most eminent botanists of the country. Professor Gray, of Cambridge, has kindly offered to work up the large and difficult family of the *Compositæ*; he has also determined most of the species in the collection, and has given every facility for consulting the collections and library of the "Gray Herbarium," of Harvard University. Professor Torrey, of New York, will describe certain orders of the *Apetalæ*, of which he has made a special study. Dr. Englemann, of St. Louis, will prepare the description of the *Cactaceæ*, and render assistance in several other orders to which he has particularly devoted himself. Professor Thurber, of New York, will describe the grasses, and Professor Eaton, of New Haven, the ferns and higher cryptogamic plants. The carices collected during the first two years of the survey were examined and determined by Dr. Booth, of London, just before his death. The herbaria of Professor Torrey, so rich in Pacific coast specimens, and those of the Academy of Natural Sciences of Philadelphia, and of the Smithsonian Institution, have also been freely opened to Professor Brewer for comparison and consultation. The plants in the State collection will all be carefully named, and it is hoped that the Legislature will not much longer delay having them placed where they will be accessible for comparison to all students of this science on the Pacific coast.

It is believed that the botanical volume may be got ready for the press before the close of the year eighteen hundred and sixty-seven.

VI.—ZOOLOGY.

The extensive acquaintance of Doctor Cooper with the fauna of the Pacific coast, obtained previous to his connection with the Geological Survey, has enabled him to prepare a large amount of material for the press, forming the basis of at least four volumes of our report. The following table shows what had been accomplished in the way of zoological collecting up to April first, eighteen hundred and sixty-four, in six of the classes:

	Mammals...	Birds.....	Reptiles.....	Batrachians	Fishes	Molluscs....
Number of species known to exist in California.....	110	353	66	18	183	542
Collected by the survey	34	237	33	10	74	507
New to the fauna of California.....	13	11	10	1	20	211
Not before described.....	2(?)	4	4	.....	13	122
Found east of the Mississippi	23	161	.....	1(?)	2(?)	29

In some of the classes a considerably larger exhibit of species obtained for the collection could have been made, had it not been deemed advisable by Doctor Cooper not to collect the more common and easily procured species until a suitable place had been provided for the museum of the survey. The mounting of specimens of birds and mammals is so much more satisfactorily done from freshly prepared skins, that the collecting of such species as can be readily obtained in this vicinity may properly be deferred until they can be set up at once in the place they are destined to occupy. The number of specimens illustrating the zoology of the Pacific coast, now in the collection of the survey, may be estimated at between seven thousand and eight thousand.

Of three of the four volumes of the zoological reports the illustrations have been in hand for several months, and it is hoped that they will be so far advanced towards completion that at least two of them may go to press during the year eighteen hundred and sixty-six.

Two volumes of the zoological series will be devoted to the birds and mammals, and Doctor Cooper's manuscript will be carefully revised by Professor Baird, of the Smithsonian Institution, who also has charge, under my general direction, of the execution of the illustrations. We propose to give a figure of one species in each genus of the birds; those which have never before been described or figured being illustrated by large colored figures on steel or stone, and the others by wood cuts. The different species of each genus will be distinguished from each other by diagrams of the head, claws, wings, and other characteristic parts. The mammals will also be fully illustrated, the object being to furnish, in the zoological series, manuals or text books which shall not only have a permanent scientific value, as containing in a condensed and systematic form all that is known of the fauna of the State of California and its borders, but which shall also be practically useful to those persons who may desire to ascertain the names and habits of the animals they may meet with on land or in the waters of the Pacific coast.

The description of the fishes will form a separate volume, and this will be prepared by Mr. Theodore Gill, who will be able to use, not only the materials and notes furnished by Doctor Cooper, but also the extensive collection of the Smithsonian Institution, accumulated during many years of labor by the various naturalists who have devoted themselves to gathering specimens on the Pacific coast in this department. Each species will be illustrated by a carefully drawn and engraved figure, the work being done under Mr. Gills' immediate supervision.

The shells will also afford the material for another volume, Doctor Cooper's collections being very extensive, and comprising nearly two hundred new species. As the eminent conchologist, Mr. P. P. Carpenter, has been for a long time specially devoted to the study of the shells of the Pacific coast, Doctor Cooper's collections have been placed in his hands for study, and it is expected that he will prepare one of the volumes of our zoological series, in which each species will be illustrated by an accurate figure.

The maps and sections, with perhaps some of the more important illustrations of the scenery of the State, should be placed together in one volume or atlas, and this will form the proper conclusion of our series of publications.

According to our plans for publication, as developed in the preceding pages, it will be seen that we contemplate issuing from eleven to thirteen volumes, which are distributed among the different departments of the survey as follows:

Physical Geography.....	1
General Geology.....	2
Palæontology.....	2
Economical Geology, Mining, and Metallurgy.....	1 or 2
Botany.....	1
Zoology.....	3 or 4
Maps, sections, etc.....	1
Total.....	11 to 13

Of these, two are already issued, and eight more are in a forward state of preparation, the illustrations of three of them being nearly all drawn, and a portion of them already engraved. The amount of time required to complete the series of thirteen volumes will, of course, depend upon the vigor with which the work is pushed, and that, again, on the amount appropriated by the Legislature. With a sufficiently liberal appropriation, it is probable that the fieldwork may be finished before the time expires when the office of State Geologist will by constitutional limitation cease to exist—April the fourth, eighteen hundred and sixty-eight. The completion of the printing and engraving will of course require a longer time; but it will perhaps be reasonable to estimate that within four years from the present time the full series of volumes may be in the hands of the public.

No provision has yet been made by the Legislature for the arrangement and exhibition of the collections made by the survey, as was contemplated in the original Act under which our work was commenced. These collections are already very extensive, embracing many thousand specimens of rocks, fossils, minerals, and ores, as well as the extremely important suites in the zoological and botanical departments. All these specimens are of great value, as illustrating the natural history, the geological structure, and the mineral resources of the State. Such of these as have not been required for use in the preparation of our report, remain packed in boxes and stored away at the office of the survey. Unfortunately, we were obliged, for want of room, to store a portion of our specimens in a (so-called) fireproof warehouse in San Francisco, and these have already been destroyed by fire, entailing a serious loss on the survey and the State. In view of this calamity, it will not be necessary for me to enlarge on the necessity of providing a permanent fireproof building for our collections, as has already been repeatedly urged by me in my annual communications to the Legislature. The only official step thus far taken by the Legislature towards the establishment of a State Museum, is the passage of the following resolution by the Legislature of eighteen hundred and sixty-two and eighteen hundred and sixty-three.

"Resolved, by the Assembly, the Senate concurring, That Professor J. D. Whitney, State Geologist, John Swett, State Superintendent of Public Instruction, and J. F. Houghton, Surveyor General, be and they are hereby constituted a Board of Commissioners, to report to the Legislature on or before the second Monday of December, one thousand eight hundred and sixty-three, upon the feasibility of establishing a State University, embracing an Agricultural College, a 'School of Mines,'

and a Museum—including the geological collection of this State; and that said Board report such facts and considerations as they may deem important in connection therewith."

In obedience to this requisition of the Legislature, an elaborate report was submitted by the Board of Commissioners as above constituted at the session of eighteen hundred and sixty-three and eighteen hundred and sixty-four. In this report the whole subject of the organization of a State University was thoroughly discussed, and the requirements of the Constitution in this respect duly set forth. The establishment of a State Polytechnic School, having for its object "the professional training of young men in the exact and natural sciences, and their application to arts, manufacture, mining, and agriculture," was strongly recommended to the Legislature. It was also proposed that the collections of the geological survey should be placed in a suitable fireproof building, in which should be ample accommodations for displaying and showing them, as well as room for a library, laboratory, and an office for the survey, together with lecture rooms, and other conveniences necessary for a scientific school, for which purpose the building was to be used after the completion of the survey. This would have been the first step towards the establishment of a State University, provided for long since by the Constitution, and for which funds have been furnished by the United States.

The interest on the money received from the sales of the land given by Congress has thus far been applied to another purpose; but it is evident that the people, through the Legislature, are bound in honor to see that the trust accepted by the State and incorporated in their own Constitution should be sacredly complied with.

In concluding this communication, it may be mentioned that the Act under which the survey is at present conducted does not require the State Geologist to present to the Legislature, through the Governor, or in any other way, any annual report or estimate for the continuance of the survey, as was demanded by the Act under which the survey was originally organized. The State Geologist will, however, be happy to appear before the "Committees on Mines and Mining Interests" of the Senate and House, and to give them all possible information in regard to the progress of the survey, and what he deems desirable for continuing the work both in the field and in the office.

I am, with high respect, your obedient servant,

J. D. WHITNEY,
State Geologist.

REPORT

OF

W. E. LOVETT, SPECIAL INDIAN AGENT,

TO

AUSTIN WILEY,

SUPERINTENDENT OF INDIAN AFFAIRS IN CALIFORNIA.

REPORT.

To AUSTIN WILEY,
Superintendent of Indian Affairs:

SIR:—Having received a communication from you, informing me of your removal from office, and requesting my immediate return to San Francisco, I beg leave to submit the following necessarily crude and imperfect report of the condition and wants of the Mission Indians in the Counties of Los Angeles, San Bernardino, and San Diego. Being compelled to return before I had concluded my labors, I fear my report will not be found as full, complete, and satisfactory as it otherwise might have been.

In accordance with instructions received from you, I took passage on the steamer "Senator" for San Pedro; arrived at San Pedro, and proceeded thence by stage to the City of Los Angeles, where I was detained some days on account of the difficulty of procuring transportation for myself, escort, and the necessary provisions for the journey. This delay proved to be no loss of time, however, for I found upon inquiry that most of the matters contained in your special instructions were well understood in the City of Los Angeles, and during the time that I remained there, took measures to make myself fully acquainted with Indian affairs in the Counties of San Bernardino, Los Angeles, and San Diego.

J. Q. A. Stanley, the Distributing Agent in that quarter, rendered me much valuable assistance by useful information and suggestions.

To Colonel James F. Curtis, commander at Drum Barracks, San Pedro, I am also indebted for much information and many acts of kindness, tending to advance the views and desires of the Indian Department, more particularly those contained in my letter of special instructions.

General Mason, commanding the Military District of Arizona, and myself, arrived at San Pedro on the same day, and the fitting out of his wagon trains there for the march to Arizona was the principal cause of the scarcity of the means of transportation and the consequent delay.

Colonel Curtis having furnished me with a suitable military escort, on the twentieth of April I left Los Angeles in company with J. Q. A. Stanley for the Indian country. At the Town of El Monte I met my escort, and camped there that night. The next day travelled as far as the Santa Anna River, and encamped for the night; the following

day reached Laguna Grande; on the third day we reached the Indian Rancherias of Temascal and Temecla. Camped at Temecla, and called in the captains and chiefs to inform that in one week from that day we would hold a big meeting of all the tribes or families.

The chiefs, at my request, sent runners with written orders for all the tribes to assemble on the fourth day of May, eighteen hundred and sixty-five, at Temecla.

Following your instructions, I then started for the Carriseto, where the man Burnham was murdered, reaching the place after two days' travel.

Nothing remained at the place of the murder but the ashes of the burnt building. About four miles from the spot is Kimble's Station, where I camped, and learned all the particulars of Burnham's murder, which in substance are as follows:

Burnham was a man of ungovernable temper, and had killed one or two men himself. At the time of his death he was engaged in selling liquor to Indians, and the general opinion is that on the night of the murder the Indians were drunk, and they murdered him for money and liquor.

Four Indians had already been arrested and were confined in the jail at San Diego, and one had been executed for the murder of Burnham when I arrived at the place. As there could not be found any clue to implicate other Indians in the murder, I made no further inquiries.

The citizens at Kimble's informed me that there was no suspicion against others; and that seemed to end my duty in this particular.

Returning from Kimble's I arrived at Temecla, and in accordance with another of your special instructions, started for the rancho of Cave J. Coutts, near San Luis Rey. Following closely the letter and spirit of your instructions, I examined particularly the Jolla Indians in reference to the charge made against Mr. Coutts. They informed me that Mr. Coutts had never interfered with their rights, but that he had bought a rancho of ten leagues from the heirs of Pablo Apis, chief of the San Luisena Indians, which includes the Rancheria of La Jolla.

Mr. Coutts delivered to me the original deed from his grantors, which is hereunto annexed, and which must be returned to him upon his request, as that is the condition upon which it was delivered to me. By a reference to the deed it will be seen that the question between Mr. Coutts and the Indians is a question of title, and one for the Courts to settle.

There was also a complaint against Mr. Coutts by the parents of an Indian boy in his employ.

Upon examination, the boy was found to be well cared for, and consequently it was deemed proper that he should remain.

Another complaint against Mr. Coutts was that he had whipped an Indian to death, and another severely. There was no proof of the first charge. Mr. Coutts has, however, done wrong in flogging Indians. The custom and the rule is for the chiefs to administer the punishment. Mr. Coutts was informed that he must follow the rule, and must not treat the Indians with unnecessary severity.

The Government has sadly neglected to exercise that supervisory care over the Mission Indians which would have prevented such things from occurring. Indeed, they have been almost forgotten within the last few years. True, the civil war during this last mentioned period, which has so completely engrossed the attention of the Government, demanding every energy, that it might enforce complete supremacy at home, is a

sufficient excuse for this apparent neglect. But in the future it is to be hoped that this industrious and worthy class of Indians will receive that fostering care and protection they so much need to constitute them, in case of foreign war or internal dissension, an element of strength upon our southern border.

Returning from San Luis Rey, on the fourth, fifth, and sixth of May, I held a large meeting at Temecla. All of the San Luisena Indians were present, as were also the Cahuillas, from San Bernardino, together with most of the Santa Ysabel and the San Diego Indians, numbering in all about fourteen hundred. They brought with them a full account of the number of men, women, and children; also lists of all their animals, the number of their fruit trees and grape vines, the original accounts ingeniously cut in long strips of wood, which I have brought with me to be preserved in your office; a written explanation of their meaning will accompany this report.

Mr. Stanley, the Distributing Agent, spent most of the time in faithfully distributing the seeds and agricultural implements forwarded by you for the Indians. This work was performed in a diligent and patient manner. The heads of families, some hundreds in number, each received a small portion of the seeds and some agricultural implements. The immediate detail of the distribution you will be informed of by Mr. Stanley himself.

Each tribe or family was allowed to come forward at the meeting and state their complaints and grievances; they were mostly of a petty character, and easily disposed of; some, however, were of a serious character, and demand the earnest attention of the department.

The Cahuillas of San Timoteo, during the existence of the small-pox, two or three years ago, fled in dismay, leaving their lands, not with the intention of abandoning them, but from fear of the epidemic. The white settlers near the Indian lands immediately took forcible possession of them, and have positively refused to give them up. It is of the utmost importance that immediate steps be taken to examine fully into this matter, to the end that strict and impartial justice be done in the premises; and if it is found, upon investigation, that the possession of the lands of San Timoteo, in San Bernardino County, belongs to the Cahuilla Indians, it is to be hoped the department will, without delay, put the rightful owners again in the occupancy of their lands, though this should require the military arm of the Government. The Cahuillas are only a partially civilized tribe, and they are now roaming through the San Jacinto Mountains without a home or resting place. It is a matter of wonder they commit so few depredations. They number about nine hundred.

Some nine miles from Temecla is a place called Pejamo; when the Indians left this place for their summer grounds, a number of villainous Americans, headed by two men named Breeze and Woolfe, burned the Indian houses, or "jacalls," and then took forcible possession of their lands and ditches. This is the complaint made by the Indians, and it is substantiated by the whites. Justice demands a full and impartial investigation of this matter.

The white residents in those Indian districts have all, more or less, for the last two years, been in the habit of either selling or giving liquor to Indians, and the State has paid dearly for this, being compelled to spend two hundred thousand dollars per annum to prosecute, punish, and maintain Indians for the commission of crime, nearly the whole of which has its origin in the use of liquor. The better class of whites have, however, agreed with me that in the future they will not sell or give liquor to

Indians. They say they are willing to co-operate with the department in doing away, as far as possible, with this destructive element. If the department will give this proper attention, very much of the trouble with the Indians can be avoided. It is not to be expected that drunkenness among the Indians will altogether cease, but with the assistance of the well disposed whites it can be materially decreased.

In nearly all of the rancherias of the Indians are found strolling vagabond whites, who, disloyal to their country, have been teaching the most pernicious doctrines to the Mission Indians, cohabiting with their women; fond of intoxicating drinks, and rebels at heart, it is a matter of wonder that the Indians, under their instruction, have committed so few depredations. I issued written orders to the chiefs not to give asylum to or permit this class of whites to demoralize their people any longer by allowing them to remain in their rancherias. I informed them particularly that the Government would be displeased with them if they afforded a refuge to secessionists fleeing from justice. The chiefs, in every instance, informed me that hereafter no white men should be allowed to utter disloyal sentiments in their presence, nor would it be permitted in any of the rancherias; and that henceforth no person disloyal to the Government of the United States should have a resting place with them; furthermore, that those now staying amongst them should be requested to leave, and not return. This work had been commenced when I left, and has, I trust, been well prosecuted by the chiefs.

The wants of the Indians are not great, viewed as an immediate necessity. A proper distribution of some of the soldiers' condemned clothing, late in the fall, would, I think, be correct. What the Indians need most is proper encouragement, together with a strict supervisory care on the part of the Government.

Under the old system of Mission priests, these Indians were not only self protecting, but were also a source of revenue. The pious fathers, however, while they exhibited towards them a kindly care for their temporal as well as spiritual welfare, were, nevertheless, strict in exacting obedience, and firm in exercising care and authority over them, their property and their labor—the Indians simply furnishing the manual labor, while the priests furnished exclusively whatever brain work was necessary. It must be admitted that under the Mission system the Indians were far better cared for, and were much happier, more industrious, and less vicious than at present. It is not to be expected that we can ever fully return to the old system; partially, however, we can.

I earnestly hope this department will lay before his excellency Governor F. F. Low, a full statement of the condition and wants of the Mission Indians of California, to the end that in the Governor's next annual message to the Legislature he can suggest such measures for their relief as he in his judgment may deem wise and proper.

In my opinion, and in justice to the people of Los Angeles, San Bernardino, and San Diego Counties, who are at times forced to support large numbers of indigent Indians, it is necessary that a small appropriation should be made by Congress for the exclusive care and protection of the Mission Indians of the southern counties of California. Such an appropriation could be most judiciously applied in the purchase and proper distribution of seeds, agricultural implements, and clothing. A small portion of the amount appropriated could be very properly expended in preserving from ruin those first landmarks of Christianity and civilization on the Pacific Coast, the Mission churches. Nothing would tend more to subdue the evil passions of the Indians than a

restoration of those magnificent edifices now crumbling to decay. Many may disagree with me; but I have no hesitation in saying, after observing for twenty-eight years the habits and characters of the christianized Mission Indians in California and Mexico, that nothing contributes more to do away with crime amongst them than the influence of good and holy priests.

The supervisory care of the Indians should be *continuous*, and sub-agents or special agents should be selected who will faithfully give their whole and undivided attention to supervising the Indians. It will not do simply to make periodical visits full of promises, which generally end in neglect; but promises and pledges should always be fulfilled in letter and spirit.

At the request and election of the Santa Ysabel Indians, Chief "Tomas" was removed, and Ambrosio appointed in his stead.

Chief Francisco Maylin resigned from the charge of the San Luisena Indians, and Manuelito Cota was appointed.

On the third day of the meeting, General Mason, *en route* for Arizona, arrived at Temecla, which circumstance had a most happy effect on the Indians.

They were informed by me as to the great struggle through which the nation had just passed, and of the necessity that forced the Government almost temporarily to forget them; they were promised that in future they should be cared for and protected in their rights and privileges; and that strict and unqualified obedience to the Government and laws would be exacted of them.

It is to be sincerely hoped that these pledges will be faithfully kept, and that not a single promise will be broken. I earnestly hope you will call your successor's attention to this incomplete report, and endeavor to impress upon his mind the necessity for his department to finish the work commenced by me and brought to a sudden termination by your removal from office.

W. E. LOVETT,
Special Indian Agent.

RANCHERIAS PRESENT AT THE TEMECLA MEETING.

POTRERO—Contains eighty men; ninety-seven women and children; one hundred and forty-three beeves; one hundred and forty-five horses and mares; sixteen jacks; two hundred sheep; three hundred fruit trees; one thousand nine hundred and seven grape vines, of many years growth.

SAN YGNACIO—Contains fifteen men; nine women; six cows and horses; fifty fruit trees.

AUCUGA GRANDE—Contains thirty-four men; fifty-one women and children; nine beeves; sixteen horses and mares; seven hundred grape vines, all bearing well; four hundred fruit trees.

TEMECLA—Contains one hundred and ninety men; one hundred and ninety-two women and children; two hundred and twenty-five head of cattle; one hundred and fifty horses; one hundred and sixty-three sheep; no vines or fruit trees. There is a question of title here as to their lands, between the heirs of John Rains and the Temecla Indians. This should be fully examined.

SAN LUIS REY—Contains seventy-five men, women, and children; sixty-two beeves; forty-five sheep.

CAHUILLAS—Contains seven hundred and three men, women, and children; sixty horses, mares and cows; two hundred sheep. Manual Largo is the chief of this tribe. They are the Indians spoken of in my report as having been driven off their lands in San Timoteo, San Bernardino County. They are much scattered at present.

COYOTES—Contains eighty men; sixty women and children. These are a bad tribe, and given to stealing.

SANTA ROSA—Contains fifty men; sixty women and children; no horses or cattle.

LA JOLLA—Contains eighty-two men; ninety-eight women and children; one hundred and thirty-five cows; fifty mares; one hundred and eighty peach, fig, and pear trees. These are the Indians who live on the lands claimed by Cave J. Coutts, of which mention has been made.

LABOBA—These Indians have a complaint against one Ramon Rivas, who has squatted on their lands. They number about sixty men and seventy women. This needs very much a full investigation.

PALA—Contains seventy-three men; eighty-nine women and children; fifty-six beeves; fifty-seven horses and mares; seventy sheep; fifty-six fruit trees.

PAUMA—Contains one hundred and six men, women, and children; forty-three beeves; fourteen horses; forty-six sheep.

CHOLO—Contains forty-two men; sixty-five women and children; fifty fruit trees; three hundred vines; thirty-eight oxen and cows; eighteen mares.

SAN YSIDRO—Contains sixty-two men; ninety-seven women and children; no animals or other property.

AQUA CALIENTE—Contains seventy-three men; seventy-five women and children; seventy peach trees; two thousand two hundred and forty grape vines; twenty-five horses; forty-two head of cattle.

SAN YSIDRO—Contains forty men; fifty women and children; nine horses; two oxen; fifteen sheep.

LA PUERTA DE LA CRUZ—Contains eighty-four men, women, and children; six cows; two yoke of oxen; five horses; six mares; fifty grape vines. Soldiers of the Seventh Regiment killed three of their beeves.

PUERTA CHIQUITA—Contains eighty men, women and children; fourteen animals of all kinds; twenty-two peach trees; thirty vines.

There were ten rancherias of the San Diego Indians unable to be present, because of the great distance to be travelled in going to Temecla. These should be called together at some convenient time, and their condition ascertained. From their chief, Tomas, I learned they were in about the same state and as numerous as the average of the rancherias present at the gathering.

REPORT OF SURVEYOR-GENERAL

IN RELATION TO

MARSH AND TIDE LANDS

Within five miles of the Cities of San Francisco and Oakland,

MADE IN COMPLIANCE WITH

SENATE RESOLUTION OF FEBRUARY 10, 1866.

REPORT.

STATE OF CALIFORNIA,
Office of Surveyor General, February 14, 1866. }

To the Honorable, the Senate of the State of California:

GENTLEMEN:—In compliance with a resolution which passed the Senate on the tenth instant, copy of which was furnished me yesterday, I have the honor to report the annexed lists showing the number of the surveys by the County Surveyors, number of acres in each survey, number of certificate of purchase, date of certificate, date of issue, and to whom issued, of all marsh and tide lands for which certificates of purchase have issued, within five miles of the cities of San Francisco and Oakland. Also the numbers of and amount of acres contained in thirteen surveys returned by the County Surveyor of San Francisco, which have been refused any action in this office.

Other incorporated cities are not precisely located upon the maps of this office with reference to township surveys, but the surveys near them can in time be furnished if desired.

For further information upon this subject, I beg leave to refer to the report of this office for the year eighteen hundred and sixty-five, pages one hundred to one hundred and four.

I have the honor to be, gentlemen,

Very respectfully, your obedient servant,

J. F. HOUGHTON,
Surveyor-General, and Register of State Land Office.

O. M. CLAYES.....STATE PRINTER.

LIST

Showing certificates of purchase for salt marsh and tide lands within five miles of the City of San Francisco, issued since the last session of the Legislature.

No. of Survey.	Number of Acres.	To whom Issued.	No. of Cert.	Date of Certificate.	Date of issuance of Certificate.
2	181.71	J. J. Treadwell.....	29	Feb. 23, 1864.....	June 11, 1864.
3	146.25	William Ademan.....	30	Feb. 23, 1864.....	June 11, 1864.
4	179.84	A. M. Winn.....	31	Sept. 26, 1864....	Sept. 26, 1864.
5	41.06	Chas. W. Randall...	32	Feb. 23, 1864.....	June 11, 1864.
6	33.44	B. C. Vandall.....	33	Sept. 26, 1864....	Sept. 26, 1864.
7	39.31	Cyrus Crigo.....	34	Feb. 23, 1864.....	June 11, 1864.
8	81.04	Michael Murry.....	35	Sept. 26, 1864....	Sept. 26, 1864.
9	30.03	Geo. W. Spencer.....	36	Feb. 23, 1864.....	June 11, 1864.
10	42.98	F. G. Truett.....	37	Feb. 23, 1864.....	June 11, 1864.
11	83.17	D. L. Perkins.....	38	Feb. 23, 1864.....	June 11, 1864.
12	59.34	James Graves.....	39	Feb. 23, 1864.....	June 11, 1864.
13	48.15	R. Perry.....	40	Feb. 23, 1864.....	June 11, 1864.
16	37.43	A. L. Chamberlain..	41	October 25, 1864	October 26, 1864.
17	19.43	B. F. Perry.....	42	October 25, 1864	October 26, 1864.
18	42.61	A. W. Bickford.....	43	October 25, 1864	October 26, 1864.
19	1.56	Jonathan Sweigert..	44	October 25, 1864	October 26, 1864.
20	19.50	Warren Woodward.	45	October 25, 1864	October 26, 1864.
21	7.00	G. W. Weston.....	46	October 25, 1864	October 26, 1864.
22	6.30	P. Sander.....	47	October 25, 1864	October 26, 1864.
23	9.80	Robert Leslie.....	48	October 25, 1864	October 26, 1864.
24	8.09	Elihu Marchant.....	49	October 25, 1864	October 26, 1864.
25	8.90	S. J. Heywood.....	50	October 25, 1864	October 26, 1864.
26	37.83	G. A. Lloyd.....	51	October 25, 1864	October 26, 1864.
27	19.39	Charles Boylan.....	52	October 25, 1864	October 26, 1864.
28	29.70	M. B. French.....	53	October 25, 1864	October 26, 1864.
29	49.52	M. C. Dodge.....	54	October 25, 1864	October 26, 1864.
30	50.00	H. F. Precht.....	55	October 25, 1864	October 26, 1864.

LIST

Of suspended surveys, San Francisco County.

No.	In whose Name.	Number of Acres.
31	Charles Mackay.....	23.20
32	William H. Hilton.....	41.03
33	William H. Bryan.....	13.40
34	S. B. Larmour.....	62.89
35	William H. Larmour.....	31.47
36	Edward Ewald.....	24.85
37	Edward Ewald.....	14.69
38	Paul Molloy.....	101.68
39	A. J. Schrader.....	264.00
40	Thomas H. Holt.....	8.05
41	Edward Ewald.....	6.81
42	A. J. Schrader.....	1.34
43	Samuel C. Bowley.....	2.01

LIST

Showing certificates of purchase of salt marsh and tide lands within five miles of the City of Oakland, Alameda County, issued since the last session of the Legislature.

No. of Survey.	Number of Acres.	To whom Issued.	No. of Cert.	Date of Certificate.	Date of issuance of Certificate.
3	92.00	J. M. Wood.....	30	March 22, 1864..	June 11, 1864.
4	56.00	W. L. Ferrel.....	31	March 22, 1864..	June 11, 1864.
5	51.00	R. C. Page.....	32	March 22, 1864..	June 11, 1864.
6	45.47	P. H. Catlin.....	33	March 22, 1864..	June 11, 1864.
7	33.92	L. A. Gould.....	34	March 22, 1864..	June 11, 1864.
8	27.47	L. H. Cables.....	35	March 22, 1864..	June 11, 1864.
9	60.00	John M. Hay.....	36	March 22, 1864..	June 11, 1864.
10	234.00	T. H. Frolingsby....	37	March 22, 1864..	June 11, 1864.
21	40.00	O. W. Bostwick.....	38	March 22, 1864..	June 11, 1864.
22	96.50	C. B. Grant.....	39	March 22, 1864..	June 11, 1864.
23	37.67	B. B. Williams.....	40	March 22, 1864..	June 11, 1864.
24	36.38	A. J. Egery.....	41	March 22, 1864..	June 11, 1864.
25	48.37	T. T. Childs.....	42	March 22, 1864..	June 11, 1864.

LIST OF CERTIFICATES OF PURCHASE—Continued.

No. of Survey.	Number of Acres.	To whom Issued.	No. of Cert.	Date of Certificate.	Date of issuance of Certificate.
26	236.00	W. H. Brown.....	43	March 22, 1864..	June 11, 1864.
27	137.50	E. P. Paine.....	44	March 22, 1864..	June 11, 1864.
28	208.05	C. D. Daniels.....	45	March 22, 1864..	June 11, 1864.
29	220.00	C. A. Williams.....	46	March 22, 1864..	June 11, 1864.
30	235.00	C. D. Anderson.....	47	March 22, 1864..	June 11, 1864.
31	5.00	H. C. Beals.....	48	March 22, 1864..	June 11, 1864.
32	100.00	G. B. Larrabee.....	49	March 22, 1864..	June 11, 1864.
33	120.00	S. C. Leonard.....	50	March 22, 1864..	June 11, 1864.
34	10.00	Jacob Bacon.....	51	March 22, 1864..	June 11, 1864.
35	39.30	J. S. Kennedy.....	52	March 22, 1864..	June 11, 1864.
36	64.97	H. O'Conner.....	53	March 22, 1864..	June 11, 1864.
37	74.69	Henry Bell.....	54	March 22, 1864..	June 11, 1864.
38	87.82	F. G. Appleton.....	55	March 22, 1864..	June 11, 1864.
39	85.91	S. Hoadley.....	56	March 22, 1864..	June 11, 1864.
40	74.79	W. Jacobs.....	57	March 22, 1864..	June 11, 1864.
41	100.00	G. E. Childs.....	58	March 22, 1864..	June 11, 1864.
42	180.00	J. L. Batchelder.....	59	March 22, 1864..	June 11, 1864.
43	79.00	W. H. H. Learned..	60	March 22, 1864..	June 11, 1864.
44	25.20	Milo Hoadley.....	61	March 22, 1864..	June 11, 1864.
45	69.00	S. M. Balch.....	62	March 22, 1864..	June 11, 1864.
46	182.00	Thomas C. Claney..	63	March 22, 1864..	June 11, 1864.
47	47.50	Peter W. Weller.....	64	March 22, 1864..	June 11, 1864.
48	360.00	W. W. Russell.....	65	March 22, 1864..	June 11, 1864.
49	400.00	David Lewis.....	66	March 22, 1864..	June 11, 1864.
50	260.00	Abel Whitton.....	67	March 22, 1864..	June 11, 1864.
51	175.00	W. P. Morrill.....	68	March 22, 1864..	June 11, 1864.
52	20.00	W. M. Cubery.....	69	March 22, 1864..	June 11, 1864.
53	80.00	James G. Gould.....	70	March 22, 1864..	June 11, 1864.
54	20.00	L. Rulo.....	71	March 22, 1864..	June 11, 1864.
55	56.51	William H. Cone....	72	March 22, 1864..	June 11, 1864.
56	53.24	A. V. Evans.....	73	March 22, 1864..	June 11, 1864.
57	58.00	T. D. Pearson.....	74	March 22, 1864..	June 11, 1864.
58	140.00	R. O'Neil.....	75	March 22, 1864..	June 11, 1864.
59	120.00	Albert Lusk.....	76	March 22, 1864..	Pat. June 7, '64.
*60	340.00	A. Martin.....	77	March 22, 1864..	June 11, 1864.
†64	80.00	C. L. Farrington....	82	March 22, 1864..	June 11, 1864.
65	28.00	J. W. Denny.....	78	March 22, 1864..	June 11, 1864.

* Only about one third of survey No. 60 lies within the five miles.

† Only about one third of survey No. 64 lies within the five miles.

OPINION OF THE ATTORNEY-GENERAL

IN RESPONSE TO

SENATE RESOLUTION,

ADOPTED FEBRUARY 16, 1866,

RELATING TO THE

Tide Land Locations upon the San Francisco City Front,
near Oakland, and the State Prison.

OPINION.

ATTORNEY-GENERAL'S OFFICE,
Sacramento, February 17, 1866. }

To the Senate of the State of California :

I am in receipt of the following resolution, adopted by your body :

"Resolved, That the Attorney-General be requested to communicate to the Senate all material facts within his knowledge concerning provisions for and sales of tide lands within the five mile limits of the Cities of San Francisco and Oakland, and one mile of the State Prison at Point San Quentin, together with his opinion as to the validity of such sales."

My reply shall be as brief as the tenor of the resolution will permit. This tide land matter is interwoven with the State Prison litigation, as detailed in my annual report, on pages six and seven, and on page seven of the report of the Prison Directors. On February twenty-fourth, eighteen hundred and sixty-four, I received the letter of the Surveyor-General of the twenty-third, to be found on page one hundred of his report. About a week after its receipt, and early in March, the execution in *Simms v. McCauley* was levied. Acting Warden Chellis at once visited Sacramento, and I was advised by the Board of Directors of the levy upon and threatened sale of the Prison property, and the consequent embarrassment. A postponement of the sale was obtained for some days upon order of the plaintiff's attorney.

The records of the two suits of *Simms v. Chellis* and *The People v. Simms and McCauley* were investigated—both had been instituted, and decided, and the term of the Court had passed, before I assumed office—both had virtually gone by default against the defendant in the first, and the plaintiffs in the second case. Owing to the condition of the suits upon the record, I advised the Board that the chances upon appeal to the Supreme Court were all against them in the first suit, and very strongly against them in the second. In the meantime, they were liable to other and harrassing suits for mesne profits.

That was the "legal proposition" "reached" by me, as referred to on page six of my report. The "financial proposition" was reached by the Board, as detailed on page seven of their report. If the judgments

were to stand, then Simms had acquired title, though the law never authorised the issuance of the McCauley patent.

The decisions were the law of the case, right or wrong, and the title was adjudicated to that particular tract of land. Simms, however, was demanding an exorbitant price; but the Board, by negotiating through Chellis, obtained from Simms a contract to convey, in stringent terms, (on file in the Secretary of State's office,) about the middle of March; for five thousand dollars in Prison scrip, Simms was to release the property levied on, satisfy or assign both his judgments, convey his title by deed within a limited time, release any right to further mense profits, etc. The negotiations were to be and were consummated about the middle of April, when the Board had time to visit the Prison. Simms conveyed to Chellis, and Chellis to the State; the judgments were satisfied, the claims released, though the scrip is not yet paid. In a legal and financial point of view, in the strait she was, I have no manner of doubt the State was the gainer in the operation.

It was during these negotiations that H. F. Williams was pressing me for an answer to the Surveyor-General's letter of February the twenty-third, wherein the proposition was argued and my opinion asked if he was authorized to "issue the certificate" for the "piece of land at the outer limit but within the five miles of Oakland," and I repeatedly put Williams off, because of the above negotiations, telling him generally, as a reason, of the existence of the Prison suits, but not divulging (though he may have known) and not intending to divulge to him or others the particulars of the negotiations until consummated; and when finally I learned from the then Senator from Alameda and others that the Lusk tract was not very valuable, and Williams threatened a suit, rather than have the question agitated or decided in the Courts at that time, before the Directors got their contract to convey, and the subsequent deed, and thus, it might be, cause further embarrassment to the Directors, I gave Williams an implied promise that in time I should likely advise the issuance of the Lusk certificate. This I did some time after my return from the Prison and San Francisco, in my letter to the Surveyor-General, of May the twenty-third, eighteen hundred and sixty-four, (page one hundred and two of his report,) under which Williams received his certificate with *full knowledge* that he was paying his money and running the risk of getting no title.

The question to me was: Shall I issue the certificate in the Lusk case? My answer was: "I advise you, in this *particular case*, to issue." My letter authorized that, and authorized no more, either in terms or spirit. I expressly reserved an answer to the general question involved. On December tenth, eighteen hundred and sixty-four, I received a note from J. H. Saunders, Esq., City Attorney of San Francisco, asking me if I had given the opinion that all the tide lands were open to sale, and referring to the published report of the Surveyor-General for eighteen hundred and sixty-four. I at once obtained a copy of the published report, and on the same day wrote the Surveyor-General the letter to be found on page seven of my report; and also on that day answered Mr. Saunders, to the effect that I had given no such opinion. On December twelfth the opinion of the Supreme Court, in *People, etc., v. Morrill*, was published in the *Sacramento Union*, and I at once on that day wrote notes referring both the Surveyor-General and Mr. Saunders to the published opinion, (copies of all which letters are on file in this office.) I claimed that legally the certificates were worthless, and awaited action through the intervention of the Courts by the holders to obtain patents.

They had paid their money, and alleged they had taken every step under the laws; why did they not apply for patents? They took no measures publicly, and expended no money on the faith of the certificates until last fall. In September last I was informed that parties were driving piles in Mission Bay. I at once obtained from the Surveyor-General and Register a copy of the application and survey covering the lands and water where the piles were being driven, together with his certificate, of date September fifth, that certificate of purchase Number Thirty-two, was on February twenty-second, eighteen hundred and sixty-four, issued to C. W. Randall for tide land embraced in survey Number Five, received and filed February eleventh, and approved February sixteenth. I then filed an information in the Fourth District Court against Randall and others to set aside the certificate, on the ground that it was improvidently or fraudulently issued and not authorized by law, and asked for an injunction. (Copies of the complaint in this and the following case are in this office fully stating the facts.) The injunction was granted, and no motion has ever been made to dissolve, and the case will likely come up in April.

Again: About the last of October, I learned that other parties or the same were driving piles in another part of Mission and San Francisco Bays. I instituted a similar suit to set aside Certificate of Purchase Number Fifty-two, issued to Charles Boylan, prayed for injunction and abatement of the intrusion upon the State's property and the nuisance. Injunction was granted; no motion yet to dissolve. I took these steps in part that no one might claim he expended money on the faith of these certificates, even though the injunctions should be dissolved thereafter. I should have continued to institute such suits if informed, and as often as informed of any such public proceedings. Even in these two cases the parties interested in part claim in the first suit under the Mission Bay Bridge Franchise, (Statutes 1862, p. 275; 1863, p. 414; 1863-4, p. 398;) in the second under the Hobbs' and Pacific Glass Works' Wharf Franchise, (Statutes 1863, p. 726; 1863-4, p. 509.) In the last case no answer has yet been filed; in the former, one has been; and the other branch of the defence is, that the parties aver that the Acts of April twenty-first, eighteen hundred and fifty-eight, April eighteenth, eighteen hundred and fifty-nine, May thirteenth, eighteen hundred and sixty-one, May fourteenth, eighteen hundred and sixty-one, April twenty-seventh, eighteen hundred and sixty-three, "and other laws of the State" authorized the issue of the certificate of purchase, and that the holders thereof have a valid title to that part of the bay.

My opinion is asked "as to the validity of such sales," and I shall very briefly give it, as I shall not presume to question the soundness of the decision of *The People v. Morrill*, (26 Cal. Rep., p. 336;) which case I consider virtually adjudges the invalidity of such attempted sales.

These lands are claimed to be lands belonging to the State by reason of its sovereignty.

First—None such were offered for sale by the Act of eighteen hundred and fifty-five. (Statutes 1855, p. 189; *People v. Morrill*, 26 Cal. 354.)

Second—The Act of eighteen hundred and fifty-eight, (Statutes 1858, p. 198,) does not authorize sales of such lands, unless in exceptional cases, along channels within the ebb and flow of the tide "threading" the salt marsh. Of course Mission and San Francisco Bays are not such "channels." (*People v. Morrill*, 26 Cal. 354, 355.)

Further, the purpose of the Act was to provide for the sale of "swamp and overflowed lands." Section thirteen (Statutes 1858, p. 201) perma-

nently excepted out of the operation of the Act all swamp and overflowed lands situate within the localities named. The swamp and overflowed being excepted in those localities, so must the tide lands along any channels "threading" the swamp lands, if any such existed, be excepted. The principal being excepted within the prescribed limits, the incidents must follow.

Third—The amendatory Act of eighteen hundred and fifty-nine, (Statutes, 1859, p. 340,) does not enlarge the scope of the offer to sell contained in the Act of eighteen hundred and fifty-eight. (People v. Morrill, 26 Cal., pp. 355, 356.)

None of these Acts thus far authorized the sale of the lands specified in the resolution.

Fourth—Nor did the Act of May thirteenth, eighteen hundred and sixty-one, (Statutes, 1861, p. 355.) The chief purpose of that Act was for "reclamation and segregation." It provided a general system, too elaborate to be reviewed here. It is not an Act for the sale of lands—no price is mentioned, no machinery is provided. Blot out all prior Acts, and how could any one purchase under this? One must wade through section after section of provisions for reclamation and segregation, and then after such segregation was made, if any one wished to purchase under any Act, (not under this,) providing for the sale of swamp lands, he could do so by making the affidavit under section twenty-six, instead of the affidavit of the Act of eighteen hundred and fifty-nine, for the obvious reason that most of the facts required to be sworn to by the applicant under the Act of eighteen hundred and fifty-nine were supposed to be established by the segregation of the commission under the Act of eighteen hundred and sixty-one—all other steps had to be taken under prior Acts. Besides, section twenty-six directly refers to the Act of eighteen hundred and fifty-nine. But the Acts of eighteen hundred and fifty-eight and eighteen hundred and fifty-nine did not provide for, on the contrary, reserved from sale, the swamp and overflowed lands within the localities named in section thirteen of the Act of eighteen hundred and fifty-eight, consequently neither did this Act authorize their sale.

It is said, however, that by section twenty-seven, (Statutes, 1861, p. 361,) the provisions of this Act applied equally to all marsh and tide lands as to swamp and overflowed. True; but I have just shown under this, and the second and third heads, that this Act and the Acts therein pointed and referred to, of eighteen hundred and fifty-eight and eighteen hundred and fifty-nine, did not apply to the sale of the swamp and overflowed lands within the localities named, consequently neither did this Act nor those referred to apply to the sale of the marsh and tide within those localities. How could a man purchase under the "provisions" of an Act lands to which those provisions had no application? This reasoning is sustained by People v. Morrill, 26 Cal., p. 358, 359.

Fifth—The Act of May fourteenth, eighteen hundred and sixty-one, (Statutes, 1861, p. 363,) in terms excludes from sale the lands referred to in the resolution. And it further shows that the Legislature had not supposed that upon the day previous it had authorized the sale of the lands along the city front and near Oakland.

Sixth—These lands are not authorized to be sold, but excluded from sale by section thirty of the Act of April twenty-seventh, eighteen hundred and sixty-three, (Statutes, 1863, p. 601.)

Seventh—There are no "other laws of the State," as averred in the Randall answer, that authorize the sale.

Besides, these attempted purchases have been made since the passage of the Act of April twenty-seventh, eighteen hundred and sixty-three. It was the evident intent of the Legislature that no future sales of the marsh and tide lands of the State should be made within the localities named in section thirty of the Act. Previous legislation was revised, and to a great extent supplanted by it. It repealed all Acts in conflict with its provisions. It is a complete and comprehensive scheme upon this matter. (Higgins v. Houghton, 25 Cal., p. 257; State v. Conkling, 19 Cal., pp. 509, 512.)

At the very least, this is true as to all matters of procedure. But in the Randall application, and in how many others I am not informed, the provisions of the Act of eighteen hundred and sixty-three were not complied with. The affidavit does not state all the requirements of section three; thirty days did not expire from the receipt and filing of the application and survey till the approval thereof by the Surveyor-General, as required by section nine. All these matters are fully set forth in the Randall and Boylan complaints.

Legislative exposition, prior, contemporaneous, and subsequent, as gathered from the above public and numerous private Acts, scattered all through the statute books, shows that it was not the intention or the understanding of past Legislatures that the lands on the city front and in the prescribed limits, were or should be subject to sale. And it is a little unblushing for some of the claimants now to say that they obtained these certificates, and in good faith paid their money, believing the law authorized the sales, when at the same time they were making their applications they were also getting their homestead bills through the Legislature of eighteen hundred and sixty-three and eighteen hundred and sixty-four. Whether this remark applies to all the claimants, I cannot say, as they have thus far refused to disclose their names, though they purchased in good faith!

To quote the language of another, "the manifest policy of the State (as shown by her whole legislation upon the subject of her overflowed and tide lands) has been to retain within her own control the tide lands in the locality of the City of San Francisco, and to make them the subject of special grant alone. In conformity with this general policy she has uniformly withdrawn from the operation of all general laws or system of laws for the disposition of her tide lands those within a given distance of the city.

"Whenever she has undertaken to dispose of any portion of them, it has been by special law, with such guards and restrictions as she thought proper to throw around her grants. She has refused to trust their disposition to inferior officers, or to include them in any general system. The grounds of her policy are apparent: evidently to retain the entire and unlimited control of the great interests, commercial and shipping, involved in the preservation, improvement, and judicious extension and management of her great harbor. She reserves to herself alone the right to determine when, and how, and to what extent, and upon what considerations, she will part with the entire control of any portion of her tide lands around the city front.

"Who shall question the policy or deny the right?"

This opinion has been hurriedly prepared; hence I have not multiplied reasons for the conclusions arrived at. Nor have I considered the question of the power of the State to grant lands below low water mark on navigable waters.

My opinion also upon the subject matter of this resolution is expressed briefly in my report on pages eight and nine. Subsequent events have not in the least changed, nor will the ultimate result in this matter at the present session, whatever it may be, change that opinion as to the "persistent and pernicious applications" therein referred to.

I am, respectfully, your obedient servant,

JOHN G. McCULLOUGH,
Attorney-General.

COMMUNICATION

FROM THE

Board of State Harbor Commissioners,

IN RESPONSE TO

Senate Resolutions of February 24th, 1866.

COMMUNICATION.

OFFICE OF BOARD OF STATE HARBOR COMMISSIONERS, }
San Francisco, February 27th, 1866.

To the Honorable the Senate of the State of California :

The following resolutions, adopted by your honorable body on the twenty-fourth instant, have been received :

Resolved, That the Board of State Harbor Commissioners be requested to report forthwith to the Senate as follows :

First—The number of wharf leases granted by said Board since their last report ;

Second—To whom and for what period they have been granted, and whether any leases heretofore granted extend beyond the water line ;

Third—The terms of said several leases, whether payable monthly, quarterly, or yearly, and the several amounts to be paid for the use of said wharves ; and be it further

Resolved, That the Secretary of the Senate be and he is hereby instructed to forthwith send copies of this resolution to each of said Harbor Commissioners.

In answer to the first question of your resolution, we would state that *no* wharf leases have been granted since the date of our last report.

In answer to your second interrogatory, we would state that *no* wharf lease heretofore made by us gives any right or privilege beyond the water front line except in the case of the lease made to the Pacific Mail Steamship Company. Under said lease the said company have the *right* (at their own expense,) but are *not obligated*, to build Folsom street to a point six hundred feet outside of the water front line—in case the same should be required for the purposes for which said lease was granted, viz : for the use of their steamers only. The term of said lease is three years from the first day of October, eighteen hundred and sixty-four, and the rent two thousand dollars per month, payable monthly in advance, in gold coin of the United States.

Our reply to your third interrogatory is found in the answer to the second question of your resolution.

Any further information relating to the transactions of this office will be cheerfully and promptly furnished, when desired.

We have the honor to be, respectfully,

Your obedient servants,

C. L. TAYLOR,
S. S. TILTON,
JAMES LAIDLEY,
State Harbor Commissioners.

P E T I T I O N

OF THE

Trustees of the California Bible Society

TO THE

LEGISLATURE OF CALIFORNIA.

IN SENATE, MARCH 3, 1866.

P E T I T I O N .

To the Honorable the Members of the Senate and Assembly of the State of California :

It having come to the knowledge of the undersigned, Trustees of the California Bible Society, that there is a bill now pending before the Legislature repealing all laws exempting the property of religious corporations from taxation; and as the undersigned are intrusted with the interests of the aforesaid society, instituted for the purpose of circulating the Holy Scriptures among the people of this State by sale without profit, and by donation to those unable to purchase, that the diffusion of religious knowledge may be secured among the people, therefore, the undersigned desire to set before the members of your honorable bodies the grounds on which they judge the exemption heretofore granted should be allowed to continue in force.

We think that it cannot have escaped the notice of the members of your honorable bodies, that the truths of the Bible conduce to the establishment and support of the free institutions of our country.

The germinal idea of civil liberty expressed in the Declaration of Independence in these words, "that governments derive their just powers from the consent of the governed," we hold is primarily taught in the injunction of the Jewish lawgiver in the foundation of the Hebrew commonwealth :

"Take your wise men and men of understanding, and known among your tribes, and I will make them rulers among you."

"Morality and religion," said Washington in his Farewell Address, "are indispensable supports to political prosperity;" and it is substantially true that virtue or morality is a necessary support of popular government.

The Bible is not a system of abstract ideas, but does, by the most powerful sanctions, hold men to the duty and practice of virtue and religion. And besides this, the Word of God is most effectual in sustaining the civil government in the exercise of its authority, making obedience to it nothing less than a *religious duty*, for we have the apostolical precept: "Let every man be subject to the Higher Powers; he that resisteth the Power resisteth the ordinance of God." To such an

extent did our "Revolutionary Fathers" feel the importance of a full supply of the Holy Scriptures for the nation, that the Continental Congress, by a most decided vote, ordered the importation of twenty thousand copies of the Bible for the use of the people at the public expense.

In this same spirit the elder Adams advocates the propagation of virtue and religion among all classes of the people as the only means of preserving our constitution from its natural enemies.

Says the Hon. De Witt Clinton: "The sanction of religion composes the foundation of good government; and the ethics, doctrines, and examples, furnished by Christianity, exhibit the best models for the laws of public opinion." Writes Chancellor Kent: "Human laws labor under great imperfections; they extend to external actions only. In this view the doctrines of the Bible supply all the deficiencies of human laws; and lend an essential aid to the administrators of justice."

With these views of the importance of virtue and religion as the safeguards of our free institutions, and the essential support which the Bible affords to their authority, sustained by the confidently expressed opinions of such patriots as Washington, Adams, Clinton, Kent, and a host of others who might be quoted on the subject in a similar strain, the undersigned pray your honorable bodies not to disturb the action of a former Legislature so much in accordance with the wisdom and teachings of the founders of our Republic, but to leave the property of the California Bible Society without taxation, that it may be at liberty to expend all its resources in the circulation of the Holy Scriptures, and spread the knowledge of religion and morality as the firmest props of the duties of the man and the citizen, and the indispensable support of our political prosperity.

As in duty bound we shall ever pray.

JESSIE T. PECK, *President.*
CHARLES WITTRAM, *Treasurer.*
WILLIAM R. WADSWORTH, *Secretary.*

E. BIGELOW,
NATHANIEL GRAY,
ANNIS MERRILL,
E. P. FLINT,
FRED. BUELL,
JOHN REYNOLDS, } Trustees
of Cal. Bible Society.

REPORT

OF THE

Assembly Judiciary Committee

RELATIVE TO THE

PER DIEM OF MEMBERS.

REPORT.

Mr. SPEAKER:—In accordance with the directions of the Assembly, expressed in a resolution adopted on the 9th instant, which is in the following words:

“WHEREAS the Attorney-General has advised the Controller of State that the members of this Legislature are entitled to a per diem of only five dollars per day after the expiration of ninety days of the session, and the Controller has decided to act upon such advice; now, therefore, *Resolved*, That the Judiciary Committee be and they are hereby requested to inquire into the constitutional question of the per diem of the members of this House, and report at their earliest convenience.”

The committee have considered the subject, and respectfully report:

That the law passed April fourth, eighteen hundred and sixty-four, provides that members of the Legislature shall receive ten dollars per diem during the session of the Legislature, and four dollars for every twenty miles of travel by the nearest mail route from their residence to the place of holding the session, and in returning therefrom. This Act went into effect sixty days after its passage, and is now in force, and must determine the amount of the compensation of the members of the Legislature, unless it be repugnant to or its effect suspended by the Constitution of this State, which provides that “the members of the Legislature shall receive for their services a compensation to be fixed by law and paid out of the public treasury; but no increase of the compensation shall take effect during the term for which the members of either house shall have been elected.” The Act in force regulating the per diem of members of the Legislature at and before the passage of the Act of the fourth of April, eighteen hundred and sixty-four, provided that members of the Legislature should receive ten dollars per day during the first ninety days of the session of the Legislature, and five dollars per diem for the remainder of each session, four dollars for every twenty miles of travel, etc.

The Act of eighteen hundred and sixty-four does not increase the compensation of members, except as to the time the Legislature shall be in session after ninety days. The term of office of every one of the members of the Assembly of eighteen hundred and sixty-four expired before the meeting of the Legislature at the present session. The Act

does not increase the compensation of the members of the Assembly who passed the law, and the same facts apply to one half of the members of the Senate; the other half were members during the session of eighteen hundred and sixty-four, and held over or drew a long term of four years, which is as much the result of accident as of their election at the session of eighteen hundred and sixty-four. The Senators drew lots for long and short terms. When those Senators who drew the long term were elected it could not have been known whether they were elected for a long term or a short term—whether for two years or four years. But the right of these twenty Senators who hold over to receive ten dollars per day after the expiration of ninety days, depends upon other and different grounds than those which govern as to the other members of the Senate and Assembly who were elected at the last general election, and whose terms of office commenced since the last session. We believe that the law of eighteen hundred and sixty-four is in force; and its provisions regulate the compensation of all members of the Assembly, and also of all Senators who were elected at the last general election; that the framers of the Constitution intended by the adoption of the twenty-fourth section of the fourth article to prevent members of the Legislature from passing a law to increase their own compensation, but that in that matter the result of the legislation of every member should be visited upon his successor. The same provision is made in relation to the salary and compensation of nearly every officer whose office is created by the Constitution. The Justices of the Supreme Court, District Judges, and County Judges, it is provided, shall severally, at stated times during their continuance in office, receive for their services a compensation which shall not be increased or diminished during the term for which they shall have been elected.

The twenty-fifth section of article five provides that the Governor, Lieutenant-Governor, Secretary of State, Controller, Treasurer, Attorney-General, and Surveyor-General, shall each, at stated times during their continuance in office, receive for their services a compensation which shall not be increased or diminished during the term for which they shall have been elected. It was evidently intended by the framers of the Constitution that the Judges of the Supreme Court should not be permitted, while in office, to procure a law to be passed increasing their own salaries, and receive such increased salary themselves; that the Governor, Lieutenant-Governor, Controller, Treasurer, and Attorney-General, should not be permitted to procure an increase of their salaries during their term of office; that members of the Legislature should not be permitted to pass a law to increase their own compensation during the term of their office; but the convention did not intend that the salary of one officer should depend upon the term of another, or that the salary of one officer should not be increased or diminished during the term of another officer. It will not be seriously contended that the salary of the Attorney-General, or of the Controller, could not be increased during the term of the Governor, if their terms were of different duration; or that the salaries of the Judges of the Supreme Court could not be increased or diminished by a law to take effect at the expiration of the term of the present incumbents; or if the Legislature, at the present session, should pass a law increasing the salary of the Supreme Court Judges to twelve thousand dollars per annum, the law would be suspended, and could not take effect while the present incumbents hold office; but so soon as a full term shall have expired, and a successor of one of the present Judges elected, the law would apply to the new

Judge; but the salary of the other Judges who held office at the time the law was passed would not be changed.

The provision in the Constitution in relation to the compensation of the several officers relates to each particular office, and the person who should be elected or appointed to discharge the duties thereof; to the persons who hold the office of Governor, Lieutenant-Governor, Controller, Treasurer, Secretary of State, Attorney-General, etc., respectively, and not to all these officers collectively; to the persons who hold and exercise the duties of the office of Judge, and not to the Court composed of five Justices; and to the individual members of the Legislature, and not to the two bodies—the Senate and Assembly. It was not intended that the salary of one Justice of the Supreme Court should not be increased until the office or term of another Justice should have expired; or that the salary of one District or County Judge should not be increased during the term of another. Such a construction would be contrary to the spirit and intention of the whole instrument, and might justly be termed an extravagant construction. And from the whole instrument taken and construed together, and from the language used in the section under consideration, we must determine what was the intention of the framers of the Constitution in adopting section twenty-four, article four. If there be ambiguity in the language of the section under consideration, we must give the words that interpretation which will agree and coincide with the intention of the framers of the Constitution, found and expressed in other parts of the same instrument. And if in the instrument we can ascertain the motives which led to the adoption of the provision, and the objects in contemplation at the time the provision was adopted, such interpretation should be given as will carry out that object.

What object could the framers of the Constitution have had in providing that a law increasing the compensation of members of the Legislature should not take effect in favor of members who were elected and whose term of office commenced after the law was passed, while the terms of others was unexpired; or that the compensation of one class of members should not be increased during the term of another class? Or why should the compensation of one member be made to depend upon the term of another member? And why should the Convention have applied a different rule in relation to the compensation of members of the Legislature from that applied to all other officers created by the Constitution? Unless it is apparent from the instrument itself that such was the intention, the contrary will be presumed; and it will be presumed that the framers of the Constitution intended to apply the same rule to members of the Legislature which was made applicable to other State officers, and that they intended to provide in that instrument that no member of either the Senate or Assembly should vote for or assist in passing a law which would increase his own compensation during the term he then held.

It could not have been intended that a law fixing the compensation of members of the Legislature should not take effect until after the expiration of the term of every member of either house, nor does the language used warrant such a construction; if such had been intended, different language would have been used. It would have been provided that the compensation of members of the Senate and Assembly shall not be increased during the term of any member of either house.

Section twenty of the same article of the Constitution provides that no senator or member of the Assembly shall, during the term for which he shall have been elected, be appointed to any civil office of profit

under this State, which shall have been created, or the emoluments of which shall have been increased during such term. It cannot be contended that by this provision the framers of the Constitution intended to prohibit members of the Assembly from being appointed to any civil office during the term of a senator whose term was longer; but it was intended that no senator or assemblyman should be appointed to any office during his term, which office was created by the Legislature while he was a member. And in section twenty-four, it is provided that the members of the Legislature shall receive for their services a compensation to be fixed by law. Certainly we may construe this language to read as follows: Each member of the Legislature shall receive for his services a compensation to be fixed by law. And by rendering the whole section as applicable to an individual member, the section would read:

"Each member of the Legislature shall receive for his services a compensation to be fixed by law, etc., but no increase of the compensation of such member shall take effect during the term for which such member (or the member) of either house shall have been elected."

If the views of the Attorney-General be correct, it is difficult to perceive how the compensation of members of the Legislature can be increased under any circumstances. If the law cannot take effect at the present session, the same rule would prevent the law from taking effect at the next session. As to the twenty senators who were elected at the last general election, if the law is not now in force and has not taken effect, it cannot take effect during their term of office, for it must be remembered that the Constitution provides that the increased compensation shall not take effect during the term for which they were elected. And at the next session of the Legislature there will be twenty more new senators, and the increased compensation cannot take effect then, because it would be during the term of the hold-over senators, and if we give the Constitution this construction we forever put it out of the power of the Legislature to regulate by law the compensation of its members. Such certainly was not intended by the convention who formed the Constitution.

The twenty-fourth section mentions all the members as a body, but when we apply its provisions to individual members of either house, it is apparent that the intention of those who made the Constitution was that members of the Legislature should not vote for and procure the passage of a law increasing their own compensation during the term for which they were elected, at the time the law was passed, and nothing more.

Upon a careful examination of the whole case, we believe that the law of eighteen hundred and sixty-four is in full force, and that each member of the Assembly is entitled to demand and receive for his compensation as such member, ten dollars per day during the whole session of the Legislature, in accordance with its provisions, and recommend the adoption of the resolution presented herewith.

BROWN, of Contra Costa, Chairman.

REPORT
OF
Assembly Special Committee

APPOINTED TO VISIT THE
STATE REFORM SCHOOL AT MARYSVILLE.

REPORT.

Mr. SPEAKER:—The special committee appointed by resolution of this House to visit the State Reform School at Marysville, having made the examination, beg leave to make the following report:

The building was dedicated to its present uses December second, eighteen hundred and sixty-one. The building is located on the east bank of Feather River, about six miles north of the City of Marysville, and is surrounded by good cultivated farms. The roads leading to the building are excellent. A farm of one hundred acres of good land, the free gift of the City of Marysville, belongs to the institution, with a right of way of a strip of land one hundred feet wide, from the Marysville and Oroville Road to the building. The farm is wholly inclosed by a substantial four-board fence. About one half of the land is under cultivation, and the remainder is used for pasturage, except about twelve acres of bottom land, which contains a large amount of timber, which may be cut for fuel. The building is of brick, with pitch roof, covered with redwood shingles. The main building is four stories high, forty-four feet front, and sixty-six feet deep, from which extends north and south wings eighty-seven feet each in length, making the entire length of the building two hundred and eighteen feet, with an average of fifty-two feet in width throughout; a hall nine feet in width runs through the entire building upon each of the floors, with a cross hall running through the main building of the same width. The first story is eleven feet and six inches in the clear; the second story is fourteen feet in the clear; the third story is thirteen feet in the clear; and the fourth story of the main building is eleven feet in the clear. The extreme height of the main building is about fifty-eight feet, the two wings not being as high as the main building by eleven feet. The entire building covers an area of about twelve thousand square feet. The first floor is divided into a number of apartments, and now used for dining room, pantry, kitchen, cook rooms, store rooms, laundry, school room, workshop, sleeping rooms, bath rooms, etc. The bath rooms are furnished with cold and warm water, and contain a swimming bath of one thousand gallons capacity. Upon the second floor, and at the extremities of the wings, are two large rooms thirty-six by forty-four feet each, the south room being used for religious and other services, and the north room for a school room, but is not used for that purpose now, as there is a room large enough for present purposes on the first floor. The remainder of the second floor

or story is divided into large and convenient apartments, used by the Superintendent and his family and employes, and contains parlor, reception room, bed rooms, library room, class rooms, wash room, sewing room, and office.

The third story is not lathed and plastered yet, but has a good floor, and is used for sleeping apartments for the boys. The fourth story of the main building is also unfinished. The whole building is well ventilated, and has plenty of light. The stairs are handy and complete, leading to each story of the building. The ground inclosed in the rear of the building, with a brick wall fifteen feet high, is about one hundred and fifty thousand square feet, making a large and pleasant playground for the scholars. There is an abundance of pure water, which is obtained from a never failing well. The water is pumped by horse power, and forced to the top of the building, where it is contained in a large tank, and from which all parts of the building are supplied by pipes properly adjusted. The whole cost of building and improvements to date has been about eighty thousand dollars. There has been appropriated for the management of the school in all forty thousand dollars, and there is a deficiency of seven thousand dollars now asked for, to pay bills for the fiscal year ending June thirtieth, eighteen hundred and sixty-six, making a total of forty-seven thousand dollars for the management of the school during the four years it has been in existence. The average number of scholars for the past year has been about forty, and the largest number at any time has been forty-six; and at the present time there are forty-three scholars in the institution. About twenty of them were sent there for crime, and the balance of them were sent by their parents with no crime attached to them. Some of the scholars are older and some younger than was intended by the law for commitment to the school; and it is the opinion of the committee that but little reform results to those sent there with no crime attached to them, under the present management of the school, for the reason that they are not classified and kept separate from those who are sent there convicted of crime.

They are all schooled together and all play together, and all sleep in one large room together; and the older ones, who are experts in crime and bad language, soon corrupt the younger and more innocent ones. The object for which the building was established has not been fully accomplished, and the committee could not learn why there had not been more commitments to the institution. The Superintendent of the school says in his report that there is no good reason why there should not be quadruple the number of scholars to report at this time.

The amended Act of eighteen hundred and sixty-one, governing commitments to the school, reads as follows: "Upon the request of any parent, or guardian, or friend of any boy or youth who has no parent or guardian, who may be shown to the Trustees or managers and Superintendent of the school, such boy or youth shall be received therein, and shall be subject to the care, instruction, support, and discipline thereof, notwithstanding such boy or youth be guilty of no especial crime or crimes." Thus it will be seen that youths can be committed to the school with no crime attached to them; or, in other words, may be sent there by their parents or friends. And yet, with a law as liberal as this, there have been but ninety-eight scholars admitted to the school since it was first opened, and at this time only forty-three remain in the institution, and of that number some are not within the provisions of the law governing commitments to the school. The committee are satisfied that the Trustees and Superintendent of the school have done all in their

power to make it a success, and we have no reason to complain of their management of the institution. There has been but one death in the school during the past year, and no great amount of sickness, although we were informed by the Superintendent that there had been some cases of fever and ague among the scholars. The whole cost of medicine and of medical attendance for the school during the past year does not exceed fifty dollars, owing partly to the fact that the Superintendent is a druggist by profession, and has attended upon the scholars himself. Should the Legislature think best to continue the school where it is, the committee would recommend an appropriation of twenty-four thousand dollars for the management of the school for the two fiscal years commencing in June, eighteen hundred and sixty-six, and an additional appropriation of six thousand dollars for the completion of the building, and to make necessary alterations in order to classify the scholars, as is needed for reform.

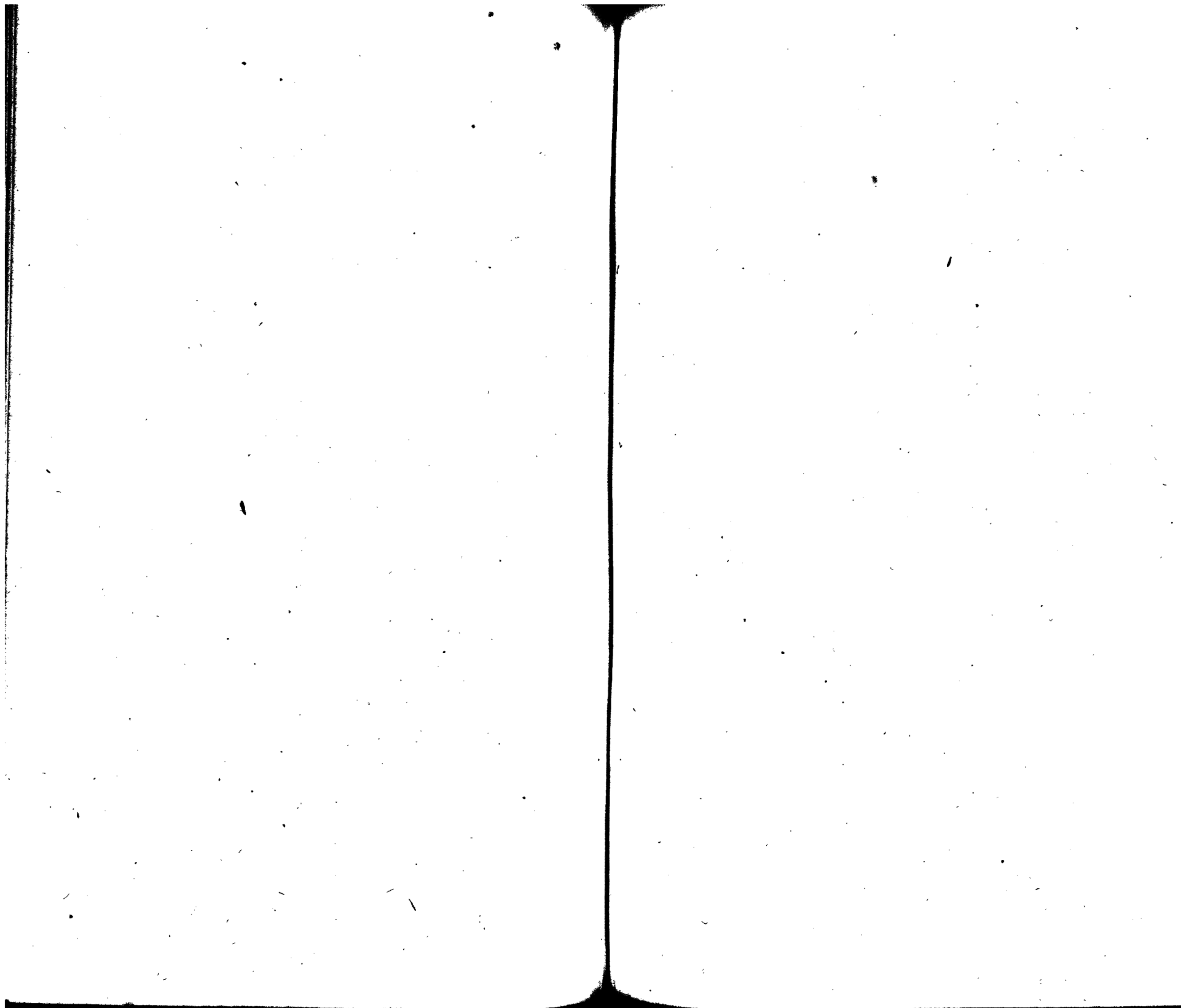
In conclusion, your committee would say that they have received the following proposition from the Trustees of the Industrial School of San Francisco: They propose to take the scholars now in the Reform School, together with all that may be hereafter committed for the space of two years, for ten thousand dollars a year, and to receive all that may be committed after the expiration of two years at the rate of one hundred and twenty-five dollars a head per year. This arrangement would undoubtedly save quite a large amount of money to the State, and at the same time we are satisfied that the change would be to the interest of the boys removed. Therefore your committee cannot consistently do otherwise than recommend that the proposition be accepted. The committee also recommend that in case the proposition be accepted, an appropriation of four hundred dollars be made for the purpose of defraying the expenses of transportation of the scholars to the Industrial School.

Respectfully submitted,

MAHOLMB,
WARD.
BUGBEE,
GOODWIN.

We agree with the majority of the committee on all points in the report except the removal of the school, and would most respectfully recommend that it be continued where it is.

SHERWOOD.
TILDEN.



MEMORIAL TO CONGRESS
IN BEHALF OF
SETTLERS ON LANDS
COVERED BY THE
Arroyo Seco Grant.

IN SENATE, MARCH 8, 1866.

MEMORIAL.

The Memorial of the Legislature of the State of California to the Congress of the United States, respectfully represents:

That early in the year eighteen hundred and forty-nine, American citizens commenced making locations and improvements upon lands lying and being partly in the County of Amador, partly in the County of Sacramento, and partly in the County of San Joaquin, in the State of California. These locations and improvements were all made in good faith—were all made by actual settlers, who at the time confidently believed, and were warranted in so believing, that the said lands rightfully belonged to the Government of the United States. These settlers, also believing that the liberal land system, favoring actual settlers and actual settlements upon the public domain, and which, for many years prior to the acquisition of California, had been the fixed policy of the National Government, would, as soon as practicable, by Act of Congress be extended over the public lands within the State. This reasonable expectation of the settlers was more than realized, for Congress, in addition to extending the existing laws over the public lands within California, formed with a view to encouraging as well as facilitating locations and improvements upon the public lands, passed an Act authorizing preëmptions upon unsurveyed lands. The locations and improvements specially referred to in this memorial commenced, as before stated, early in the year eighteen hundred and forty-nine, and continued without interference of any kind whatever until near the close of the year eighteen hundred and fifty-six, when for the first time the settlers referred to heard that there existed, or rather, that it was claimed that there was in existence, a claim adverse to the United States, in the shape of a Mexican grant, said to have been made on the eighth day of March, eighteen hundred and forty, by Don Juan B. Alvarado, at the date of the grant Governor of California, to one Teodosia Yorba, and that said grant was called the Arroya Seco. Many of the settlers herein referred to, when first informed of the existence of said grant, had been about seven years in undisturbed possession of the lands located by them, and had thereon very valuable improvements.

In view of the great value of the agricultural and mineral lands claimed as covered by the grant, and the varied and extensive improvements making and in progress, including four well known and flourishing

towns, the surprise was as general as natural, that the existence of the said grant should have for so many years remained unknown even to men who had given the land records thorough and careful investigation. In fact, the impression in eighteen hundred and fifty-six was general that the said grant was fraudulent, and that its confirmation by the proper tribunals was more than doubtful. In the latter part of the year eighteen hundred and fifty-six the first survey was made, and this survey, it is proper to state, was the first information given the settlers as to the probable boundaries of the said grant. This survey included nearly all of the lands of value in Ione Valley; from Ione the lines were run nearly in an eastern direction, including a narrow strip of land so shaped to embrace within the grant, in addition to the City of Ione, Jackson, the county seat of Amador County, and also the Towns of Amador and Sutter Creek; the three last named being flourishing mining towns, and about ten miles from the town first named. Under this, the first survey, and which, as before stated, was made near the close of the year eighteen hundred and fifty-six, Andreas Pico, who at the time claimed that he was the owner of said grant, sold and executed deeds to different persons to tracts and lots of land lying and being in and near the Towns of Jackson, Sutter, and Amador, and for which he received in the aggregate a large sum of money. The survey of eighteen hundred and fifty-six, and under which the sales before mentioned were made by Pico, remained undisturbed until near the close of eighteen hundred and fifty-eight, when, to the astonishment of all interested, and especially the purchasers from Pico, another survey was made, with the knowledge and consent, if not at the request of the said Pico. This second survey materially changed the boundaries of the grant, omitting, as it did entirely, the narrow strip of land before described, and, of course, excluding therefrom the Towns of Jackson, Amador, and Sutter Creek, in order to give the claimant the eleven leagues of land called for by the terms of the grant. All lands of value within the Ione, Jackson, and Dry Creek Valleys were included within the second survey, embracing many valuable tracts of land which, years prior to the date of this last survey, had, by the parties then in possession, been purchased from the Government of the United States, and valuable improvements made thereon, amounting in the aggregate to not less than eight hundred thousand dollars. Part of the lands included within the grant by the second survey had been regularly surveyed as public lands, and the quantity of land purchased by actual settlers from the Government, and which was covered by the grant as confirmed and patented to J. Mora Moss, Horace W. Carpentier, Edward F. Beale, and Herman Wohler, on the twenty-ninth of August, eighteen hundred and sixty-three, is about five thousand acres. In view of these facts, is it not clear that the settlers herein referred to are entitled to adequate relief in some form from the Government of the United States?

But to resume the statement of the facts of the case: After the first survey—the survey of eighteen hundred and fifty-six—had been completed, and the boundaries of the grant made known to all in any form interested, and after it was known that Pico had made sales of lands lying and being at and near the Towns of Jackson, Amador, and Sutter Creek, the actual settlers in Ione, Jackson, and Dry Creek Valleys, and who were not included within the grant as then marked out, assumed, as they were authorized to assume and believe, that there was no adverse title to the lands occupied by them, commenced new improvements, and proceeded with greatly increased energy and confidence in the good work of making comfortable homes for themselves and families.

In truth, it was not until after the completion of the second survey that these enterprising and worthy settlers were apprised of the fact that there existed even a shadow of doubt as to the validity of the titles by which they held their lands. In considering the object of this memorial, and which is to secure from the General Government adequate relief for the wronged settlers herein referred to, it should be borne in mind, and due importance attached to the fact, that many of the settlers excluded from the grant by the first survey were included within the grant by the second survey; and that the said settlers, after the first survey believing that these lands were outside of the grant, commenced extensive and costly improvements upon their lands, which it is not probable they would have done if at all in doubt as to the validity of their respective claims to the lands then occupied by them. Especially confident in their rights were those of the settlers who, after the completion of the first survey, and by which their claims were excluded from the grant, had purchased the lands of the United States then occupied by them.

The second survey includes within the limits of the grant four towns, named Ione City, Buena Vista, Mule Town, and Irish Hill, the three last named being mining towns, around which are rich placer mines, to successfully and advantageously work which ditches and flumes and aqueducts have been erected at great expense. The lands of Ione, Jackson, and Dry Creek Valleys, included within the grant as confirmed and patented, are not surpassed in the State in fertility and advantages of location. Nearly all of the best lands in the valleys named, at the date of the last survey, had been located under the laws of the United States by actual settlers, who had, as before stated, made very valuable improvements thereon, and were actively engaged in the cultivation of the same. The foregoing facts, all of which can and will be clearly established, should opportunity of doing so be afforded, are regarded as worthy the consideration of Congress, and moreover as such as cannot fail in satisfying all reasonable men that the settlers specially referred to in this memorial are, as before remarked, clearly entitled to such relief as can be extended them by Act of Congress. In this connection, and for the information of Congress, it is believed proper to give additional facts relating to the grant in question and the action of the several tribunals called upon to inquire into and decide upon the validity of the same. The grant in question in the year ——— was presented for the consideration of the Land Commission, a tribunal organized under an Act of Congress for the settlement of land titles in California. The Land Commission, after carefully examining all of the testimony presented for and against, documentary as well as oral, refused to approve said grant, and their decision at the time was generally regarded as correct, and as clearly warranted by the facts presented in the case. But the decision of the Land Commissioners failed to satisfy the parties then interested in the grant, and an appeal was taken to the District Court, and to the surprise of all, the decision of the Land Commissioners was set aside and the grant confirmed by that tribunal.

From the decision of the United States District Court, an appeal was taken to the Supreme Court of the United States, and as was then believed, all necessary arrangements were perfected for obtaining a hearing and a decision as to the validity of the grant by the highest judicial tribunal of the country. These arrangements all perfected, as was at the time believed, the parties in occupancy, and thus interested in the claim of the United States to the lands in question, as well as those who had actually purchased their lands from the Government of the United States, awaited patiently the action of the United States Supreme Court,

resolved to cheerfully acquiesce in its decision, whether in consonance with their own views and interests or not.

But the reasonable expectation that the decision of the United States District Court and the validity of the grant in question would be passed upon by the Supreme Court was not realized. The appeal, it is claimed, and no doubt truthfully, too, was dismissed, but the name of the officer of Government by whose order the appeal was dismissed, and his reasons therefor, never have been made public.

As before remarked, if adjudication by the Supreme Court upon the grant in question had not been defeated by the mysterious dismissal of the appeal regularly taken from the District Court, the settlers would all have acquiesced in the final decision, even if not in accordance with their own wishes or interests. But as the appeal was dismissed in a manner and under circumstances calculated to arouse suspicions of unfairness, and confidently believing, as the said settlers all do, that the action of the District Court setting aside the decision of the Land Commission adverse to the validity of the grant, and confirming the same, could not and would not have been affirmed by the Supreme Court of the United States, the said settlers maintain that they have been wronged by the erroneous action of the officers of the Government of the United States; that they have been wrongfully deprived of lands, part of which had been in good faith purchased from the Government of the United States; that many of them have been compelled, with their families, to leave comfortable homes—to leave lands upon which they had made valuable improvements, and which by toiling late and early had been brought into a high state of cultivation, and which lands were in part covered with gardens, orchards, and vineyards of great value. All of the wrongs herein complained of, the settlers in question maintain, are, as before stated, the direct result of erroneous action on the part of the officers of the United States Government.

In short, the said settlers then believed, and now believe, that at the date of the acquisition of California by the United States the grant in question had not been made and was not in existence; and they also now believe that if afforded an opportunity before an impartial tribunal, that fact would and could be clearly established. But as a patent for the land included within said grant has been issued to parties before named in this memorial, and believing that the case cannot now be opened up for a rehearing, and justice thus conceded them, they appeal to Congress, and respectfully pray that a commission of disinterested and qualified men be selected and authorized at the expense of the Government to visit the lands in question, to inquire into and ascertain all the facts of the case, and to take testimony in relation thereto, and to award each settler such amount as may by said commission be deemed just and right. And Congress is further requested, after the report of said commission shall have been presented, to make an appropriation for the relief of said parties, equal in the aggregate to the several sums respectively awarded said settlers.

In conclusion, it is proper to add that precedents for the action on the part of Congress prayed for in this memorial are believed to exist, and would have been searched for and cited if said precedents were not known to be within the knowledge of Congress, and their citation in this memorial therefore rendered unnecessary.

REPORT
OF
SENATE COMMITTEE ON HOSPITALS

RELATIVE TO

SENATE BILL No. 309,

AN ACT TO AMEND AN ACT ENTITLED AN ACT CONCERNING THE INSANE
ASYLUM OF CALIFORNIA, AND TO LEVY A TAX THEREFOR,
APPROVED APRIL 25, 1863.

REPORT.

Mr. PRESIDENT:—Your Committee on State Hospitals, to whom was referred Senate Bill No. 309, an Act to amend an Act entitled an Act concerning the Insane Asylum of California, and to levy a tax therefor, approved April twenty-fifth, eighteen hundred and sixty-three, would report the same back, recommend its passage, and at the same time submit the following report:

Inasmuch as the Legislature early in the session appointed a joint committee "to investigate the affairs of the Insane Asylum," by whom we understand an elaborate report will soon be submitted upon all those topics usually and properly embraced in the reports of the Committee on Hospitals, we deem it unnecessary at this time to extend our remarks beyond a brief statement of the present condition, wants, and future prospects of the asylum.

Your committee visited the asylum at Stockton on the twentieth of March, and so far as they could judge, from a cursory examination and such inquiries as they were able to make, found its management conducted with efficiency and economy, evincing a fidelity to the interests of the State, and a care for the health and comfort of its inmates, such as ought ever to characterize the administration of this noble charity of the State. Scrupulous cleanliness, good order, and entire harmony were apparent throughout all the departments. The new building supplies a want long felt, and is most admirably adapted to secure the ends designed. We fully concur in and indorse the statement of the Resident Physician in regard to this new structure: "It is but the section of a perfect and more extensive plan of building, but is sufficiently complete and independent in itself to possess the capacity and conveniences, so far as its present use is concerned, that the same part would afford in union with the whole. It may be added to without derangement of architectural design, or remain as it is without waste of expenditure. It is devoted exclusively to the use of female patients, contains seven wards admirably arranged for the classification of patients, an important curative necessity which before its erection was very deficient in this institution. It possesses in itself all the apparatus for warming, lighting, cooking, bathing, supplying water, and conveying food. The culinary department is in the basement, and all the work therein is performed by a man and his wife, with the aid of patients, at an expense of sixty-five

dollars a month. By the erection of this new building, the crowded condition of the male department is relieved as much as that of the female. It gives to the use of the males the entire old asylum building, the north wing and its two yards, one in the end, and one in the rear, in addition to the part before occupied." Its location is the most elevated and desirable one possible on the asylum grounds. It has relieved to some extent that pressure for more room and better accommodations, which previous to its completion had grown to be a burden too grievous to be borne, an evil of appalling magnitude.

The great object to be secured by the establishment of insane asylums is to afford the best possible means for the treatment and cure of this peculiarly unfortunate class of patients. If such institutions are overcrowded, or if the needful attention and healing influences due to each individual are insufficient, the restorative process is retarded and the percentage of cures necessarily diminished. To secure fully the beneficial effects of medical treatment and proper classification, sufficient room is indispensable; and although in this respect the additional accommodations and increased classification afforded by the new building has been a great relief, productive of great amelioration in the condition of the unfortunate inmates of this institution, there nevertheless still exists a disproportion between the number of inmates and the conveniences for their proper care and treatment. While the present buildings afford facilities for the proper care and successful treatment of at the outside not more than four hundred and fifty patients, there are at this time over six hundred and fifty crowded into this asylum. Such a number must and doubtless to a considerable extent does operate to prevent the realization of all benefits to be derived from such institutions.

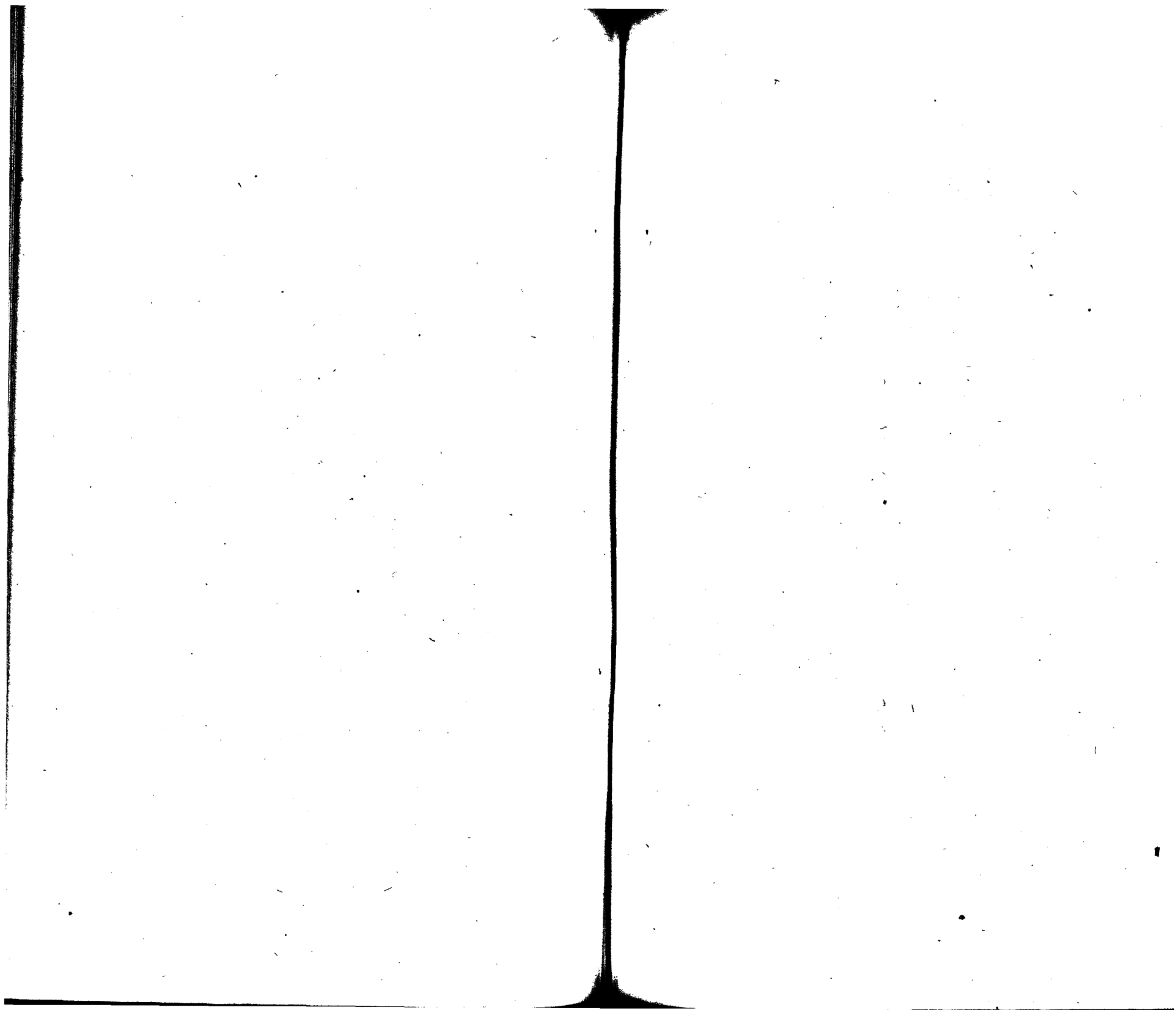
The question arises, what can be done to remedy this condition of affairs? Manifestly there are only two ways in which this can be accomplished. We must get rid of one third of the present inmates, and adopt some rule whereby the number of those admitted to the Asylum shall never exceed those discharged, or we must increase accommodations by the erection of new buildings. Of these modes we deem the former, under our present system of laws regulating the admission of the insane to the asylum, impracticable, and moreover, believe such a course would be greatly to the discredit of the fair fame which this State has enjoyed heretofore for her liberality in the previous mode for the care and treatment of the insane. The only possible remedy, then, would seem to be the construction of additional buildings. We cannot recommend the establishment of another similar institution in any other portion of the State, believing that it would entail additional and unnecessary expense on the State without any advantages sufficient to compensate therefor. We are of opinion that a judicious economy requires that the new building should be extended in accordance with the plan adopted by the Board of Directors. Contrary to statements industriously circulated through the State for some years past, it is believed that the climate of Stockton is salubrious and favorable to the treatment of the insane, a fact fully demonstrated by carefully prepared mortuary tables extending through a series of years; and also that the Asylum grounds are sufficiently elevated to admit of all necessary drainage. Actual measurement proves this conclusively.

The funds resulting from the tax provided for by the bill reported back and recommended by your committee, will be amply sufficient for the erection of an addition to the new building sufficient for the proper care and treatment of the insane of this State for the next ten years.

The only change proposed from the present law in the government of the asylum is an increase in the number of Directors from six to seven—four to be residents of Stockton, and one from each congressional district. At present they are all residents of Stockton. This change is regarded a proper one.

All of which is respectfully submitted.

WADSWORTH,
JOHNSON,
MEYERS,
KNOX,
TEEGARDEN,
Hospital Committee.



REPORT OF ASSEMBLY COMMITTEE

ON

Mines and Mining Interests

CONCERNING THE

STATE GEOLOGICAL SURVEY.

REPORT.

MR. SPEAKER :—The Committee on Mines and Mining Interests, who were instructed to visit the office of the State Geologist at San Francisco, for the purpose of examining and inquiring into the condition and progress of the State Geological Survey, and to report upon the propriety of continuing the same, having faithfully performed that duty, respectfully beg leave to submit the following report :

The very full and complete letter of the State Geologist, published by order of the Assembly, will obviate the necessity of an extended report from your committee. They will therefore submit only the result of their own observation, and a brief statement of facts, to which the attention of the members of this house may not have been previously directed.

The geological survey of this State was commenced late in the year eighteen hundred and sixty, upon a very comprehensive plan, as will be seen by reference to the first section of the Act of that year creating the office of State Geologist, which provides that it shall be the duty of that officer "to make an accurate and complete geological survey of the State ; to furnish in his reports of the same proper maps and diagrams thereof, with a full and scientific description of the rocks, fossils, soils, and minerals, and of its zoological and botanical productions, together with specimens of the same." The survey has been in progress six years, and the appropriations to defray the expenses of the same have amounted to about ninety-five thousand dollars, (\$95,000,) or a little less than sixteen thousand dollars (\$16,000) per annum on the average.

And in this connection it may not be inappropriate to speak briefly of the expenditures by other States of time and money for surveys of this description. Nearly every State in the Union has had a geological survey made, or has one now in progress. The most complete and extensive are those of New York and Pennsylvania, both of which were commenced in the year eighteen hundred and thirty-six. That of New York, which has cost half a million of dollars, is still going on. The survey of Pennsylvania was continued about twenty years, and cost over five hundred thousand dollars. The results of the survey of that State were given to the world in two quarto volumes, in eighteen hundred and fifty-eight and eighteen hundred and fifty-nine. The survey of Illinois was

commenced in eighteen hundred and fifty, has cost more than that of California, and the first volume is not yet published.

All the European States have geological surveys as permanent institutions, and it is universally recognized by those Governments that the scientific investigations are of practical value and utility to the people, and hence they are carried on with a degree of minuteness of which we have hardly any conception, and without any probability of discontinuance.

Your committee find that the last appropriation—that made by the Legislature of eighteen hundred and sixty-three and sixty-four, amounting to twenty-five thousand six hundred dollars, (\$25,600)—has been expended as follows:

<i>First</i> —For services of State Geologist and assistants, in publishing two volumes of the report, and preparing for publication six more, three of which are nearly ready, and the others well under way, about two fifths..	\$10,000 00
<i>Second</i> —For carrying on the field work in the Sierra Nevadas, and extending the detailed survey of the mining region from Kern River to the Stanislaus.....	5,000 00
<i>Third</i> —For preparing the large map of Central California.....	5,000 00
<i>Fourth</i> —For preserving and increasing the collections, rent of offices, transportation of specimens, etc.....	5,000 00
Total	\$25,000 00

During the past year two volumes of the report have been published, one on Palæontology, the other upon General Geology, and both models of typographical and mechanical execution. These works, we are proud to observe, have elicited the highest encomiums from many of the scientific men of the country, among whom we would mention Professors Henry and Baird, of the Smithsonian Institute, and Professor Dana, of Yale College.

The strictly scientific work of the survey is so nearly completed that not more than ten thousand dollars will be required in collecting and working up the materials in all the departments of palæontology, zoology, and botany. The appropriations hereafter will be expended exclusively in the departments of economical geology and topography, objects the practical utility of which is evident to all.

Your committee were agreeably surprised at the extent of the collections in the different departments of the survey. The department of geology was estimated to contain not less than two thousand specimens; illustrating the mines, fifteen hundred; fossils, five thousand; zoological department, eight thousand; botanical department, six thousand—making a grand total of not less than twenty-two thousand five hundred specimens.

Many of these specimens, especially those in the zoological department, are objects of rare interest and great value, and we beg leave to express the hope that within a few years they may be transferred from the small rooms of the fourth story of Montgomery Block, where they are at present crowded together, to neatly arranged cabinets and

museums in connection with the proposed Agricultural, Mining, and Mechanical Arts College.

It is estimated by the State Geologist that an appropriation of twenty-five thousand dollars per annum for the next four years would be sufficient to complete the survey, but your committee, in view of the heavy demands that will necessarily be made upon the State Treasury for the essential purposes of government, the support of our asylums, and the redemption of the pledged faith of the State, would recommend an appropriation of thirty thousand dollars for the fiscal years eighteen hundred and sixty-six and eighteen hundred and sixty-seven. It should be borne in mind that not less than twelve thousand dollars of this amount will be expended for publication purposes, and will again return to the State upon the sale of the volumes of the report.

Accompanying this report will be found a classified statement of the expenditures of the survey from November fifteenth, eighteen hundred and sixty, to December thirty-first, eighteen hundred and sixty-five; also a tabular statement of payments for salaries from the beginning of the survey to December thirty-first, eighteen hundred and sixty-five.

Respectfully submitted,

SMITH,
PATTISON,
SHERWOOD,
COLLIER,
STEELE,
HEARST,
SATTERWHITE.

CLASSIFIED STATEMENT

Of the Expenditures of the State Geological Survey from November 15, 1860, to December 31, 1865.

SALARIES.		
From November 1860, to June 30, 1861.....	\$8,740 50	
From July 1, 1861, to June 30, 1862.....	14,349 00	
From July 1, 1862, to June 30, 1863.....	12,926 65	
From July 1, 1863, to June 30, 1864.....	11,845 97	
From July 1, 1864, to June 30, 1865.....	9,876 00	
From July 1, 1865, to December 31, 1865.....	3,483 86	
		\$61,221 98
OUTFIT.		
From November 15, 1860, to June 30, 1861.....	\$2,283 80	
From July 1, 1861, to June 30, 1862.....	98 30	
		2,382 10

Total.

Name.	Position.	Nov. 15, 1860, to June 30, 1861.	1861-'62.	1862-'63.	1863-'64.	1864-'65.	July 1, 1865, to Dec. 31, 1865.
J. D. Whitney	State Geologist.....	\$3,750 00	\$6,000 00	\$6,000 00	\$6,000 00	\$4,500 00	\$2,250 00
W. H. Brewer.....	Assistant Geologist....	1,500 00	2,400 00	2,400 00	1,400 00	1,000 00	.....
J. G. Cooper.....	Zoologist.....	500 00	1,200 00	600 00	1,000 00	1,400 00	.....
C. F. Hollmann.....	Topographer.....	448 00	1,400 00	1,466 65	1,180 00	1,650 00	450 00
V. V. Wackenreuder..	Topographer.....	.....	.....	450 00	.....	.....	.....
W. M. Gatib.....	Paleontologist & Field Asst	.....	600 00	1,240 00	1,370 00	1,120 00	.....
A. Remond.....	Field Assistant.....	.....	.....	.....	.....	.....	687 50
W. Ashburner.....	Mining Engineer.....	1,125 00	1,200 00	.....	.....	.....	.....
C. Averill.....	General Assistant.....	450 00	750 00	530 00	231 64	.....	.....
F. R. Guirado.....	General Assistant.....	315 00	67 50	.....	.....	.....	.....
J. P. Gabriel.....	Driver.....	315 00	249 00	.....	.....	.....	.....
M. Regan.....	Cook, etc.....	337 50	157 50	.....	.....	.....	.....
C. Schmidt.....	Cook, etc.....	.....	105 00	180 00	.....	.....	.....
E. Palmer.....	Assistant in zoology....	.....	220 00	.....	.....	.....	.....
J. J. Heesch.....	Driver and packer....	.....	.....	60 00	.....	.....	.....
H. H. Sheldon.....	Mining Engineer.....	.....	.....	245 00	.....	.....	.....
E. B. Meek.....	Paleontologist.....	.....	.....	170 00	.....	.....	.....
Sundry Field Assistants.	.....	.....	.....	139 33	.....	.....	.....
Total.	.....	.....	.....	110 00	.....	206 00	96 36

* Including rent, transportation of specimens, furniture, boxes, and outfit, etc. This item includes expenditures for outfit after July first, eighteen hundred and sixty-two. Under outfit are included all articles used in the field-work, except provisions, as animals, harness, wagons, etc.

TABULAR STATEMENT

Of payments for salaries from the beginning of the survey to December 31, 1865.

REPORT

OF

Assembly Committee on Education

IN RELATION TO

THE STATE REFORM SCHOOL, ETC.

REPORT.

MR. SPEAKER :—Your Committee on Education on the eighteenth and nineteenth ultimos visited the State Normal School, the Deaf, Dumb, and Blind Asylum, the Industrial School, and the Orphan Asylums at San Francisco, and respectfully beg leave to submit the following report:

The Deaf, Dumb, and Blind Asylum is under the charge of Mr. W. Wilkinson, and now contains fifty-eight pupils, twenty-one of whom are blind, and thirty-seven deaf and dumb. Some of them seem to have made great proficiency in their studies, such as are taught in our common schools, and the blind more particularly in music. Mr. Wilkinson seems to be doing all that it is possible for any one to do for this class of unfortunates, and so far as we can judge is eminently well calculated and fitted for his position. The location and grounds are entirely inadequate and unfitted for an institution of this kind, being in all only a one hundred vara lot, and half of that under water. It is estimated that the grounds and buildings could now be sold for much more than they cost, and the institution re-located in some locality where a sufficient amount of land could be obtained on which these children could be taught to work. Your committee beg leave to say that in this they concur, and earnestly recommend some action by the Legislature to that end.

The Industrial School is situated six miles from San Francisco, and is conducted by a Board of Managers, three of whom are chosen by the Board of Supervisors of San Francisco, and twelve by members of the institution.

The institution was established in eighteen hundred and fifty-eight. Since that time, five hundred and twenty-seven children have been admitted to the institution. The number remaining on the fifteenth ultimo was one hundred and thirty-five; the average age twelve and a half years. The number who have places and are considered as doing well:

Absent on leave.....	42
Number who are indentured and doing well.....	23
Number absent on leave in United States Navy.....	23
Number absent in merchant service on leave.....	11
Number absent in whaling service on leave.....	5
Number absent on leave in United States Army.....	7
Of those in the school who have lost fathers.....	23
Of those in the school who have lost mothers.....	20
Of those in the school who have lost both parents.....	10
Of those in the school who have parents living.....	42
Who have parents living, but separated.....	29
Unknown.....	1
Total.....	135

A great number of the children have been committed for leading an idle, dissolute, and vicious life; others for crime, such as larceny, assault

and battery, and arson. Many of them are from different parts of the State, having come to San Francisco only a short time previous to their arrest and commitment. The children at this institution are taught the common English branches, such as reading, grammar, geography, arithmetic, and writing, and also to labor both in the workshop and on the farm, there being two hundred acres of land attached to and now owned by it, to which there is a clear and undisputed title. The Board of Directors of this institution wish an appropriation from the State, are willing to receive boys from the State Reform School, and such as may be committed hereafter, and that the State shall appoint a certain number of the Directors.

Your committee, believing this to be best, earnestly recommend that an appropriation be made, and arrangements made for transferring the boys from the Reform School at Marysville to this institution, or such of them as have been regularly committed by the State. The reasons that influence your committee in coming to this conclusion are these: We believe, first, that it will be cheaper for the State; second, that the manner in which this school is now carried on is the best that could be devised; third, that this school should be encouraged.

Your committee are happy to report that they were highly pleased with all they saw and heard at this school. The boys are well cared for, and everything seems to be conducted in the very best manner possible.

The President and Managers of this institution are thoroughly in love with the work, and have made great progress in the reformation of these boys. Some of the boys now have good positions in society, and are earning good wages, which they are careful to save. Those who have taken hold of this work have done so purely from a love of doing good, and should certainly receive all the aid and encouragement from the State that it is consistent to give. This school is not sectarian or political in its character, and it is the great desire of those who have the matter in charge that it should not be made such, in which desire your committee most heartily concur.

The State Normal School is held in a building belonging to the School Department of San Francisco, in the rear of the Lincoln School building. The school numbers ninety pupils, representing more than half of the counties of the State. It is under the charge of Professor Minns, assisted by one male and one female. Connected with the Normal School is a Training School or School of Practice, in which the advanced pupils are required to take turns in teaching, under the supervision of competent teachers. The Normal School has been rapidly increasing in numbers and efficiency during the past year, and has nearly reached the maximum number that can be accommodated.

Your committee would recommend that the usual appropriation be made for the continuance of this school. We would also recommend that an appropriation of *fifty-four thousand* dollars be made for support of the Deaf, Dumb, and Blind Asylum, for the two ensuing years. It will require fifteen thousand dollars to pay the salary of teachers, and two hundred and fifty dollars each for the support of the pupils, aside from the clothing.

HUNT, of Santa Clara,
PETERSON,
BUGBEE,
AYER.

I concur in the foregoing, except in the recommendation to remove the pupils of the Reform School to the Industrial School.

TILDEN.

REPORT

OF THE

STATE PRISON COMMITTEE

OF

THE ASSEMBLY.

REPORT.

MR. SPEAKER:—In accordance with the duty assigned them, your committee visited the State Prison in the month of January, eighteen hundred and sixty-six, in company with the Lieutenant-Governor and the Honorable Secretary of State, when every opportunity was afforded us to examine every portion of the buildings and condition of the prisoners.

Your committee take this opportunity to express their entire satisfaction of the management of the prison under Lieutenant-Governor Machin, who has had the chief management for the past two years; also to express their approval of the manner in which the books have been kept during the same period; also of the sanitary condition of the same. We consider the location both healthful and beautiful.

We herewith note some of the improvements made within the past two years:

Enlarging and repairing shops.

One hundred thousand bricks used in flagging the yard about the new building.

Macadamizing parts of yard, grading, and building of walls.

Belfry and bell.

Seven new guard posts.

New floors in dining room and cells.

Third story on building in front for guards.

Bedsteads, water and slop buckets, for new cells.

Fifteen Henry rifles, and eight new pistols, for guards.

Your committee recommend the employment by the State of a physician, who shall visit the prison at least once each day, and who shall reside within four miles of the same.

We found in the prison about seven hundred convicts. From inquiries among prisoners, information from outside sources, and facts given us by employés at the prison, we are convinced that a number of these convicts should be discharged from confinement, and that an act of legislative clemency releasing such prisoners as may be entitled to the mitigation of their punishment would be of advantage to them and of profit to the State.

We would suggest that the Legislature appoint a joint committee of

both Houses to visit the prison, converse with the prisoners, examine the commitments, and learn all the facts within their reach, and when informed they may recommend for executive clemency. We are convinced there are many confined in the State Prison who have been barbarously punished by the length of term imposed. We believe there are many who deserve to be restored to society.

Your committee found the prisoners well and uniformly clad from cloth manufactured at the "Mission Woollen Mills;" also good and sufficient blankets from the same mills.

We would recommend the purchase of the waterworks, for which the State is now paying one hundred dollars per month, and without any right to improve upon the same, and the supply being insufficient.

Cleanliness, discipline, and good order, were marked characteristics in and about the prison.

We herewith transmit a statement of the monthly expenses of the prison; also a statement showing the cost of each convict to the State per year, which will be shown by the tables accompanying this report.

All of which is respectfully submitted,

HOGLE, Chairman.

TABLE

Showing the total cost of each pair of pants, and each shirt, manufactured by the State from the Mission Woollen Mills goods.

FOR ONE PAIR OF PANTS:	
One and a quarter yards strip cloth, at \$1 75 per yard.....	\$2 18
Thread for same, allowing half a skein and one spool to each pair	06½
Five buttons, at 60 cents per gross	02½
Total.....	\$2 27
FOR ONE SHIRT:	
Three yards flannel, at 75 cents per yard.....	\$2 25
Thread for same.....	04
Buttons.....	03
Total.....	\$2 32

TABLE

Showing the daily allowance to each prisoner; also, the different kinds of provisions.

	Pounds.	Ounces.
Of flour.....		15½
Of beef.....		13½
Of potatoes.....		12½
Of beans.....		05½
Of pepper and salt.....		00½
Of vinegar, molasses, and vegetables.....		04½
Total.....	3	04

NOTE.—Each prisoner is allowed, in addition to the above, two and a half ounces of codfish every Tuesday and Friday.

The total cost of the above ration is twelve and a half cents each.

TABLE

Showing the daily average allowance to officers and employes, including the prisoners employed outside of the walls; also the average cost of each ration.

	Pounds.	Ounces.
Of beef.....		14½
Of flour.....		12
Of potatoes.....		09
Of ham.....		02
Of sugar.....		01½
Of coffee.....		00½
Of tea.....		00½
Of butter.....		02
Of lard.....		00½
Of hominy, sago, etc.....		01½
Of pie fruits, etc.....		02
Of syrup, vinegar, etc.....		02½
Of salt.....		01
Of rice.....		02½
Of assorted groceries, apples, eggs, etc.....		01½
Total.....	3	04

The total cost of each ration for officers, employés, and outside prisoners, including all delicacies, extras, etc., for visitors and others, is eighteen and twenty-six one hundredths cents.

T A B L E

Showing the average amount per month gained by the State in manufacturing her own shoes for prisoners, and purchasing and manufacturing the clothing for clothing the same.

On shoes, per month	\$10 68
On pants, per month	6 66
On shirts, per month	46 62
Total gain per month.....	\$63 96

The amount saved by the State for the next two years will far exceed the above, should they continue manufacturing their own shoes, and using the same cloth, from the Mission Woollen Mills, as they have only been using the cloth and flannel for eleven months, during which time they have manufactured and issued eight hundred and sixty-four pair of pants. Of this amount at least four hundred of the prisoners have sufficient clothing to last them for four or five months to come.

T A B L E

Showing the total average cost of clothing and feeding each prisoner for one year; also, the amount of clothing and provisions consumed.

CLOTHING.	
One and one third pair pants, at \$2 27.....	\$3 02½
Three shirts, at \$2 32.....	6 96
Two pair shoes, at 91½ cents.....	1 83
For half soleing and repairing.....	0 60
Total average cost clothing.....	\$12 41½
SUBSISTENCE.	
Three pounds four ounces per day for one year at 12½ cents.....	45 62½
Total cost of prisoner for one year.....	\$58 04½

REPORT AND PETITION
OF THE
SISTERS OF MERCY
TO THE
LEGISLATURE OF CALIFORNIA,
In relation to the Magdalen Asylum.

P E T I T I O N .

To the Honorable the Assembly :

May it please your honorable body : It is now two years since we presented to your honorable body a report of the condition of the Magdalen Asylum. During that period material changes have taken place in that institution, which we beg leave to lay before you.

The number of inmates increased so much that the frame building in Hayes' Valley was found insufficient for their accommodation, and we were therefore obliged to provide a much larger house. About twenty thousand dollars was contributed for this purpose by a few charitable and kind friends who had formed a just appreciation of the necessity of extending the usefulness of this great work of mercy ; but the outlay incurred in purchasing a suitable location, the erection of the present brick building, the inclosures and other improvements, together with the increased expense of living—the number of inmates being now more than doubled—has left the institute with a debt of more than eight thousand dollars.

With the exception of the moderate annual appropriation by the State, and the offerings of a few private individuals, there is no income worth mentioning. Using the utmost economy, allowing but twenty dollars per month for the entire support, clothing, etc., of each inmate, the expense cannot be reduced much if at all below fifteen thousand dollars a year.

All the circumstances herein stated we are prepared to prove, if an opportunity be afforded, to the satisfaction of any committee that may be appointed to visit the institution.

In conclusion, we intrust with the utmost confidence the cause of this most wronged and helpless class of God's creatures to the humane and generous consideration of your honorable body.

Appended is a list similar to those hitherto furnished.

Sister MARY B. RUSSELL,
Superior Sisters of Mercy.

January 8th, 1866.

O. M. CLAYES.....STATE PRINTER.

HOUSE OF THE GOOD SHEPHERD, OR MAGDALEN ASYLUM,

San Bruno Road, San Francisco.

No.	Admitted.	Birthplace.	Age.	Remarks.
1	August 29, 1859....	New Orleans.....	46	Her mind was not, for a long time, perfect; by degrees she became quite insane, and was transferred to the Lunatic Asylum, July 9, 1864.
2	January 23, 1860....	New York.....	19	Still in the institution.
3	January 26, 1860....	Virginia.....	18	Taken home by her aunt, January 28, 1864.
4	November 8, 1860....	Germany.....	19	Died March 18, 1865.
5	September 29, 1861	New York.....	14	Still in the institution.
6	September 30, 1861	Ireland.....	27	Still in the institution.
7	October 2, 1861....	Pennsylvania.....	18	Sent to a situation October, 1863; since, well married.
8	October 30, 1861....	Australia.....	18	Dismissed as incorrigible, March 14, 1864.
9	February 18, 1862....	Mexico.....	19	Sent to St. Mary's Hospital, October 11, 1862.
10	March 19, 1862....	Ireland.....	38	Went to a situation, April 26, 1863.
11	April 4, 1862.....	Massachusetts.....	16	Taken home, by her parents, January 19, 1864.
12	June 2, 1862.....	New York.....	14	Still in the institution.
13	August 3, 1862.....	New York.....	16	Still in the institution.
14	August 6, 1862.....	New York.....	11	Sent to a situation November 18, 1863.
15	September 12, 1862	Ireland.....	44	Sent to a situation November 21, 1863.
16	September 12, 1862	California.....	10	Sent to school, by her father, January 3, 1864.
17	September 13, 1862	Ireland.....	24	Left March 10, 1863.
18	October 2, 1862....	New Orleans.....	19	Left November 21, 1863.
19	October 25, 1862....	California.....	11	
20	October 31, 1862....	Ireland.....	40	Sent to a situation.
21	October 31, 1862....	California.....	20	Still in the institution.
22	November 7, 1862....	Ireland.....	38	Died July 28, 1863, in St. Mary's Hospital.
23	November 19, 1862	California.....	10	Still in the institution.
24	November 22, 1862	New York.....	14	Taken home by her father, June 19, 1863.
25	January 3, 1863.....	Ireland.....	22	Left July 26, 1863.
26	January 9, 1863.....	Ireland.....	32	Left August 6, 1863.
27	February 14, 1863....	Ireland.....	38	
28	February 14, 1863....	California.....	10	Sent to a good family October 19, 1864.
29	February 27, 1863....	Maine.....	24	Left August 29, 1863.
30	March 14, 1863.....	Ireland.....	32	Left July 9, 1863.
31	April 14, 1863.....	Kentucky.....	14	Still in the institution.
32	April 25, 1863.....	Philadelphia.....	18	Sent to the Eastern States to her family.
33	May 9, 1863.....	Ireland.....	32	Left July 8, 1862.
34	May 9, 1863.....	California.....	12	Left July 8, 1862. } Mother and child.
35	May 11, 1863.....	Philadelphia.....	9	Still in the institution.
36	May 14, 1863.....	Pennsylvania.....	18	Ran away January 20, 1864; was brought to the Asylum by a police officer.
37	July 4, 1863.....	Massachusetts.....	14	Still in the institution.
38	July 4, 1863.....	California.....	8	Transferred from the Protestant Orphan Asylum; still in the house.
39	July 6, 1863.....	Ireland.....	26	Left July 23, 1864.
40	July 29, 1863.....	England.....	30	Left September 11, 1863.
41	August 2, 1863.....	California.....	10	Still in the Asylum.
42	August 3, 1863.....	New York.....	15	Left August 27, 1863.
43	September 6, 1863....	Illinois.....	19	Left September 21, 1863.
44	September 19, 1863	Sacramento.....	14	Still in the Asylum.
45	September 21, 1863	Maine.....	14	Left June 20, 1864.
46	September 29, 1863	Ireland.....	26	Left February 7, 1864.
47	September 30, 1863	New York.....	24	Left January 18, 1864.
48	October 29, 1863....	Australia.....	17	Left January 23, 1865.
49	November 15, 1863	Ireland.....	24	Left January 31, 1864.
50	November 15, 1863	California.....	7	Adopted by a good family March 21, 1865.
51	November 26, 1863	Ireland.....	22	Left February 26, 1864.
52	November 26, 1863	California.....	15	Left December 4, 1864.
53	November 28, 1863	Maine.....	18	Second time in the Asylum; ran away January 20, 1864.

No.	Admitted.	Birthplace.	Age.	Remarks.
54	December 16, 1863....	Missouri.....	13	Sent to the Asylum by Superintendent of Industrial School, Marysville; taken home, by her step mother, March 10, 1864, and died in a few weeks.
55	December 26, 1863....	California.....	11	Removed by her mother, January 10, 1865.
56	May 9, 1864.....	California.....	12	Still in the Asylum.
57	May 27, 1864.....	Ireland.....	30	Left August 4, 1864.
58	February 1, 1864....	Illinois.....	15	Left November 14, 1864.
59	February 19, 1864....	New York.....	13	Taken by her father, March 26, 1865.
60	February 17, 1864....	Ireland.....	26	Left March 19, 1864.
61	March 5, 1864.....	California.....	12	Left June 5, 1864.
62	March 22, 1864.....	Ireland.....	23	Left September 19, 1864.
63	March 23, 1864.....	New York.....	13	Still in the Asylum.
64	April 19, 1864.....	San Francisco.....	12	Still in the Asylum.
65	May 9, 1864.....	New Brunswick.....	14	Still in the Asylum.
66	May 10, 1864.....	Ireland.....	40	Left July 10, 1864.
67	May 13, 1864.....	England.....	30	Left May 25, 1864.
68	July 16, 1864.....	Ireland.....	41	Left September 20, 1864.
69	July 19, 1864.....	Virginia.....	21	Still in the Asylum.
70	July 20, 1864.....	New York.....	16	Still in the Asylum.
71	August 4, 1864.....	California.....	20	Still in the Asylum.
72	August 5, 1864.....	Ireland.....	42	Still in the Asylum.
73	August 5, 1864.....	Ireland.....	40	Ran away September 25, 1864, and a few days after sent to the Lunatic Asylum.
74	August 27, 1864....	Louisiana.....	22	Came from China to enter the Asylum, where she had been seven years before for a few months; yet ran away, October 13, 1864.
75	September 3, 1864....	Massachusetts.....	12	Still in the Asylum.
76	September 22, 1864....	New York.....	13	Still in the Asylum.
77	September 23, 1864....	Ireland.....	35	Returned home December 10, 1864.
78	September 25, 1864....	Ireland.....	37	Still in the Asylum.
79	October 4, 1864.....	United States.....	17	Still in the Asylum.
80	October 18, 1864....	Ireland.....	36	Left December 24, 1864.
81	October 22, 1864....	Philadelphia.....	23	Left June 24, 1864.
82	November 3, 1864....	Illinois.....	17	Still in the Asylum.
83	November 22, 1864....	England.....	17	Taken from the Asylum by an adopted sister.
84	January 1, 1865.....	Missouri.....	16	Still in the Asylum.
85	January 3, 1865.....	Ireland.....	37	Left July 19, 1865.
86	January 5, 1865.....	Ireland.....	28	Left October 3, 1865.
87	January 5, 1865.....	New York.....	16	Left March 26, 1865.
88	January 16, 1865....	Pennsylvania.....	16	Still in the Asylum.
89	April 20, 1865.....	New York.....	16	Still in the Asylum.
90	April 30, 1865.....	Ireland.....		Sent to New York, to her brothers, October 13, 1865.
91	March 10, 1865.....	Ireland.....	50	Left December 28, 1865. } Mother and child.
92	March 10, 1865.....	Australia.....	22	Left January 4, 1865. }
93	May 12, 1865.....	New York.....	16	These two were sent from the Industrial
94	May 19, 1865.....	New Orleans.....	15	School, S. F., and are still in the Asylum.
95	May 29, 1865.....	Ireland.....	25	Still in the Asylum.
96	June 12, 1865.....	New York.....	13	Still in the Asylum.
97	June 22, 1865.....	Canada.....	25	Dismissed.
98	July 2, 1865.....	England.....	45	Dismissed October 2, 1865.
99	July 2, 1865.....	Ireland.....	50	Still in the Asylum.
100	July 3, 1865.....	Ireland.....	28	Still in the Asylum.
101	July 5, 1865.....	Australia.....	23	Sealed the wall.
102	July 19, 1865.....	Liverpool.....	27	Summoned to her father's trial, December 6, '65.
103	July 27, 1865.....	Maine.....	15	Still in the Asylum.
104	July 28, 1865.....	England.....	16	Taken from Sacramento jail at the instance of Judge Holl. Still in the Asylum.
105	July 29, 1865.....	Boston.....	14	Still in the Asylum.
106	August 7, 1865.....	California.....	13	Still in the Asylum.
107	August 8, 1865.....	Maine.....	20	Left October 27, 1865.
108	August 25, 1865....	New York.....	16	Left November 28, 1865.
109	August 25, 1865....	Ireland.....	40	Still in the Asylum.
110	September 8, 1865....	Ireland.....	30	Still in the Asylum.
111	September 14, 1865	Ireland.....	35	Still in the Asylum.
112	October 12, 1865....	Boston.....	14	Still in the Asylum.
113	October 16, 1865....	California.....	13	Still in the Asylum.

No.	Admitted.	Birthplace.	Age.	Remarks.
114	October 16, 1865...	Ireland	21	Still in the Asylum.
115	October 17, 1865...	California	11	Still in the Asylum.
116	October 17, 1865...	California	11	Still in the Asylum.
117	October 19, 1865...	Ireland	55	Still in the Asylum.
118	October 24, 1865...	California	9	Still in the Asylum.
119	October 25, 1865...	Ireland	30	Left November 26, 1865.
120	December 30, 1865...	Ireland	24	Still in the house.
121	January 2, 1866...	California	13	Still in the house.
122	January 2, 1866...	California	8	Still in the house.

SUMMARY.

In asylum at date of last report.....	30	
Admitted since	92	
Total		122
At present in the house	*53	
Variously provided for.....	49	
Died.....	3	
Returned to friends	11	
Sent away or left, incorrigible.....	6	
		122
Total from the beginning		199

* Of this number, fourteen belong to the class of Children of Preservation.

MAJORITY REPORT

OF

Assembly Committee on State Hospitals

IN RELATION TO

ASSEMBLY BILL No. 226.

MAJORITY REPORT.

The undersigned, a majority of the committee to whom was referred Assembly Bill No. 226, providing for the care of the insane of California, having had the same under consideration, report the same back, and recommend that it be indefinitely postponed.

This bill proposes to establish a hospital for curable patients, at some point to be determined by a Board of Directors, making the institution at Stockton a hospital for incurables. The idea of an institution for incurables alone is very generally condemned by those who have made the treatment of insanity their special study. It should be remembered that a great majority of patients in hospitals for the insane come from the industrial, producing classes. In various spheres of usefulness they have contributed their proportion to the prosperity and advancement of the State. Rendered unserviceable by no fault of their own; stricken in God's providence by disease, or perchance doing penance for the sins of their progenitors, they are worthy of our earnest sympathies, and their maintenance and ultimate cure is but the payment of a debt due them from the State. If the bill, which we recommend be indefinitely postponed, becomes a law, we may properly write over the entrance to the institution at Stockton, Dante's inscription to the portals of hell:

"All hope abandon, ye who enter here!"

All hope will be extinguished in the breast of the unfortunate patient who may be left there, or who may hereafter be sent to Stockton; his self-respect will be impaired, and his irretreivable degeneration secured.

All are aware of the powerful influence of hope in the recovery of disease, and the disastrous consequences of its opposite, despair. In no class of maladies are the beneficial effects of desire, joined to the expectation of recovery, more manifest than in insanity. Once establish a hospital for incurables, and the inmates deprived of "auspicious hope," branded with "incurability," under the twofold burden of disease and despair, these sufferers from chronic insanity will be compelled to drag out a miserable remnant of existence without one single ray of hope, present or future.

Your committee also believe that the expense that must necessarily be incurred in carrying out the provisions of this bill—building an entire

new asylum, furnishing the same, and providing it with waterworks, steam engines, physician's residence, laundry, and other buildings that are already provided at Stockton, with the salaries for physicians and other extra officers and attachés that would be required—would be more than the present financial condition of the State would justify this body in expending, and more than the present condition of the insane demands at our hands, so long as our population is not on the increase, and the exciting causes of insanity may also be expected to decrease, especially as we think all the wants of the insane can be supplied in a much more economical way. The great argument urged in favor of a new hospital, to be established at some place other than Stockton, is that the number already there is greater than should ever be confined in one institution. In reply to this, we urge that the theory upon which this argument is based is applicable to institutions situated in States where the climate is more subject to extremes of heat and cold, and other sudden changes, than our own. Hospitals regulated by the theory that three hundred and fifty is the maximum number for one institution, do not show, except in one or two instances, a greater, or even an equal percentage of cures as compared with our own State Hospital, crowded as it has been up to last October.

The percentage of cures in the New York State Insane Asylum, at Utica, where there are more than five hundred patients, and that of the New York City Asylum, where there are over eight hundred, does not fall below that of several institutions where the number is limited to three hundred.

But it is a matter of fact that there are two hospitals at Stockton, separated by a sufficient distance, each with separate attendants and appliances, but both under the charge of the same physicians.

The undersigned believe that, by the erection of another wing to the new building (as contemplated in the plan of the architect) the wants of the insane will be amply supplied, more speedily, and with about one third of the expense, to say the least, that would attend the erection of another hospital for the insane. Your committee therefore recommend the passage of Senate Bill No. 809, introduced by the Chairman of the Senate Committee on State Hospitals, which provides for the levying of a tax of five cents on the one hundred dollars for the purpose of building another wing to the new building, and also provides for some changes in the number of the Board of Directors. It is also urged as a reason why another hospital should be built, that the present location is an unhealthy one. It seems a little strange that this fact should have been found out within the last two years.

We think statistics that are reliable prove that Stockton is as healthy a locality as any now occupied as a town site in the State of California. The records of the institution show a complete exemption from epidemics, and the report of the Resident Physician for the last two years, as well as the report of the Resident Physician for the year A. D. eighteen hundred and sixty-three, do not show a single death from malarious disease. One of the most prevailing causes of mortality in the Asylum at Stockton, as well as all other hospitals for the insane, is that of phthisis, or pulmonary consumption. Now it will be evident to all candid minds that this difficulty would be much enhanced, both as respects prevalence and fatality, by a removal to a climate where high winds and sudden changes of the atmosphere are prevalent. Stockton is subject to no such sudden changes or extremes of heat and cold, the winters being very mild, (as is the case throughout the great central valley of the State) and

the heat of summer is mitigated by cool breeze that come through the Livermore Pass. These breezes rise every day about nine or ten o'clock, A. M., and are said to very much resemble the "trade winds." The first Superintendent of the Asylum, in his annual report for A. D. eighteen hundred and fifty-four, says:

"The climate is unrivalled and without a parallel. The temperature is regular and equable; and in the dry season the extreme heats are modified by a constant sea breeze from the northwest during the day, and cool winds from the mountains during the nights."

A subsequent Superintendent in his annual report remarks:

"The general health of the inmates, notwithstanding the number of invalids, has been excellent. This is in a great measure attributable to the delightful and healthy climate of the locality."

As further proof of the general healthiness of the present location of the Asylum, it will be sufficient to compare the statistics of mortality at Stockton with other places for the year A. D. eighteen hundred and sixty-three, which, we believe, was characterized by the prevalence of malarious disease throughout a large portion of the State. In that year the whole number of interments in the four cemeteries at Stockton, including the still-born and those who died from external causes, was one hundred and fifteen.

The following table will show the comparative mortality as between Stockton and other cities in this State and in the Atlantic States:

Location.	No. deaths. 1863.	Population. 1863.	Ratio of deaths to population.
San Francisco.....	2,300	100,000	1 in 43½
Stockton.....	115	5,000	1 in 43
Sacramento	380	14,000	1 in 37
Philadelphia.....	.....	.....	1 in 45
Boston.....	.....	.....	1 in 41
New York.....	.....	.....	1 in 37

"The three great Eastern cities named in this report are noted for their healthiness. In many localities on the Atlantic side the population suffers an annual mortality of one in twenty." We are informed by authority that we deem unquestionable that of the one hundred and fifteen bodies interred in Stockton in the year A. D. eighteen hundred and sixty-three, twenty-two were brought from other parts of the county to Stockton for burial, one from San Francisco, one from Sacramento; seven were still-born, and ten died from external causes. Deducting from the whole number of deaths these cases that cannot be in any way attributed to climate, the ratio of deaths in the town of Stockton would be less than sixty. A joint committee of both houses, appointed for the purpose of examining all matters connected with the Asylum, will report in a few days, and your committee deem it unnecessary to dwell longer on this head.

The undersigned have visited the Asylum in their capacity as Committee on State Hospitals, and have made a critical and thorough examination into its present condition and management, and are free to say, unqualifiedly, that we are well satisfied with the general arrangement, sanitary condition, and management of the institution. We visited the wards known as "cell wards," in which the worst cases are treated, and found no evidence of those inhuman practices that have been charged upon the managers and attachés. Under the administration of the present Superintendent, straight jackets, chains, and handcuffs have been banished from the institution, and we found every evidence of care and effort to render these unfortunates as comfortable as possible under all the circumstances. It has been alleged that the institution at Stockton had no convalescent ward; but we find that there is a commodious, well finished and furnished ward for convalescent patients. The rooms connected with this ward are furnished in good and comfortable style, are well ventilated, well lighted, and open upon pleasant outgrounds. We also find that they have a ward designated the "colored ward," in which Africans and Chinese are treated.

We have already alluded to the new building, which, from its location, can well be said to be a separate institution. This is allotted exclusively to females, and in its entire arrangement, as regards convenience, comfort, and sanitary regulations, proves the skill of the design, and the faithfulness of the artisan who executed the design.

We are pleased to find that here, as in other similar institutions of the present day, the Managers have, in addition to medical resources, introduced an element of great influence in the management of the insane—we refer to what is termed "moral treatment." Although in strict medical acceptation the latter is not of primary importance, it is nevertheless an indispensable coefficient in the attainment of therapeutic effects.

This "moral treatment" consists mainly in the classification and allotment or gradation of patients according to their mental condition. Hardly second to the medical is the diatetic treatment of the insane. Insanity is pre-eminently a disease of depression of the vital forces, of debility, and defective nutrition; and the dietary of this Asylum is based upon the knowledge that the insane require more highly nutritious food, and in larger allowance, and greater variety, than is essential in other forms of disease. Well trained and skilful attendants, many of whom have been connected with the institution for years, are allotted to each ward and department. Means of diversion, useful occupation, amusements, and musical instruments have been provided; theatres are improvised, dancing parties given, and every available means used to lighten the load of human misery that these poor unfortunates have to bear up under.

In fine, your committee express full confidence in the capacity, honesty, benevolence, faithfulness, and administrative ability of the present Superintendent of the Asylum at Stockton.

All of which is respectfully submitted.

DORR,
TAYLOR,
CHAMBERLAIN.

MINORITY REPORT

OF

Assembly Committee on State Hospitals

IN RELATION TO

ASSEMBLY BILL No. 226.

MINORITY REPORT.

ASSEMBLY CHAMBER, March 15, 1866.

MR. SPEAKER:—The undersigned, members of the Committee on State Hospitals, to whom was referred Assembly Bill Number Two Hundred and Twenty-six, an Act providing for the insane of California, having had the same under consideration, report it back with amendments, and recommend its passage as amended.

As reasons why said bill should become a law, we would respectfully submit the following:

It must be patent to every one who has given any attention to the treatment and management of insane persons, and who has visited the Asylum for the Insane at Stockton, that the capacity of that institution cannot afford *proper accommodations* for more than three hundred and fifty or three hundred and seventy-five patients; whereas there are now crowded into it from six hundred and forty to six hundred and fifty persons, besides the officers and attendants required in their management. Apart from every other consideration, this fact alone brings the subject before the Legislature in the light of a question not so much as to whether the evils dependent thereupon should be removed at the earliest possible time, but rather, what are the best steps the State can take for the relief and benefit of a class of our citizens so perfectly helpless and entirely dependent upon the charity of their more favored fellow citizens.

It is not, therefore, a question whether the necessary amount of money should be expended for their relief, (every feeling of humanity renders this imperative,) but how and where shall it be expended is, or, in our judgment, should be the question for the Legislature to determine at this time.

We believe that the bill under consideration, if its provisions shall be faithfully carried out, will fully meet the necessities of the case. It provides for a tax of ten cents on each one hundred dollars worth of taxable property, to create an "Insane Asylum and Hospital Fund," which shall be continued from year to year and until the sum of four hundred and fifty thousand dollars shall have been collected and paid into said fund. The money thus collected shall be expended:

First—In improvements in connection with the Asylum at Stockton;

Second—In providing suitable apartments within the grounds of the State Prison for the treatment of the criminal insane; and—

Third—In the purchase of a suitable location for and the construction of a Hospital for the accommodation of three hundred and fifty patients; said Hospital to be complete in its appointments, and to embrace in its appliances everything advisable for the comfort and recovery of insane persons of all classes; and said location to be as nearly central, and as easy of access by steamboat, railway, or stage coach as practicable, and embracing farming lands of not less than three hundred nor more than five hundred acres of land, and affording healthful climate, elevation, ample supply of pure water, good surface drainage, natural facilities for complete sewerage, and such other advantages as can be procured for such an institution. We need scarcely say that California abounds in locations affording the advantages here enumerated, and the undersigned

have reason to believe that a site can be procured at small cost, if not by donation, which would be both central and easy of access. We believe, indeed, that no difficulty whatever would be experienced in an effort to obtain a location for an institution such as the case seems to require.

It may be asked, why not make the necessary expenditures in connection with the Asylum at Stockton, and thus save the cost of duplicating the principal officers, and other unavoidable expenses attendant upon a branch institution? We would say in reply, that if this question involved even nothing more than the money which seems to be in it, we think it would be fully and satisfactorily answered by reference to the results reasonably to be expected from the proposed change. When it is remembered that those who recover are under treatment on an average of four months, and those who do not recover remain in the Asylum on an average of fifteen years, each at the same expense per month, it will be seen that, as a question of economy alone, it is the true policy of the State to adopt the means the best calculated to increase the number of recoveries. At twenty dollars a month (this is as little as can be expended in justice to the insane) for four months, makes eighty dollars only for the entire time the patient who recovers is kept at the expense of the State; whereas, if he does not recover, and enters upon the chronic list, the same expense must be met, per month, for fifteen years—showing a saving to the State of three thousand five hundred and twenty dollars in every case that can be added to the list of recoveries. We would ask your attention to the results, in a pecuniary point of view, of the treatment of one hundred patients under the provisions now made, compared with the results which may be reasonably expected from the provisions of the bill under consideration. About forty per cent of recoveries of legitimate subjects for treatment in asylums for the insane, is the average obtained in the Asylum of California, leaving sixty per cent on the chronic list. The former, under treatment for four months, at eighty dollars each, involves an expense to the State of three thousand two hundred dollars only; while the latter, at the same per month, or three thousand six hundred dollars each, involves an expenditure of two hundred and sixteen thousand dollars. In other words, for every one hundred legitimate patients committed to the Asylum at Stockton, it has already, or will in the end, cost the State two hundred and nineteen thousand two hundred dollars.

What would be the difference of expense if we could reverse this state of things, and reckon upon sixty per cent of recoveries, and forty per cent only of chronic cases? It would be this: instead of two hundred and nineteen thousand two hundred dollars, the expense would be but one hundred and forty-four thousand dollars for each one hundred patients—making a saving of seventy-five thousand two hundred dollars. If such a result can be obtained by the change proposed, and if it be kept in mind that the number of patients committed annually will average over two hundred and seventy during the last five years, it requires but little arithmetical knowledge to show that it would be but a short time before the State would be reimbursed in the entire amount expended by an increase in the cases of recovery, and of course a proportionate decrease on the chronic list. Besides, every one added to the number of recoveries will be restored to business life, and become a producer as well as a consumer, while the chronic cases remain consumers only, and at the expense of the State. But paramount to any considerations involving dollars and cents only, is that of the question of humanity; and the undersigned would respectfully ask the members of

the Legislature, in determining their action in the matter, to do so under the solemn obligations they owe to their constituents, many of whom have relatives and friends whose welfare and happiness for life depends upon what the Legislature may or may not do. Let every member endeavor to realize as far as he can the weight of trouble and anxiety resting upon the minds of the many fathers, mothers, brothers, sisters, husbands, wives, and friends of the six hundred unfortunates whose condition it is proposed to improve, and let him place himself in their position, and answer to his own heart and conscience how he would feel if the Legislature should hesitate, from pecuniary considerations alone, to adopt any measure promising relief. It should not be forgotten that however strong and vigorous may be our mental condition, and however blessed by exemption from the horrors of a mind diseased may be ourselves and our families, it is nevertheless certain that no one knows that he or some one of his family will not need the benefits now proposed to be instituted for the insane. No one, we think, can doubt that the bill under consideration would place the insane of California in an infinitely better condition in respect to both comforts and prospects of recovery. As representatives, therefore, of the people of the State, have we a right to determine our action in this case in view of any question apart from the interest of those for whose benefit the charity was originally established? We think not, and therefore believe the bill should become a law, inasmuch as its provisions are directed to the accomplishment of this object and this object alone.

It being conceded that a large amount of money must be expended, and as speedily as possible, to meet the pressing necessities of the case, the undersigned would submit a few reasons why, in their judgment, the expenditures required should not be made at Stockton:

First—It is the policy of the Eastern States, adopted after many years of experience and observation, not to place more than three or four hundred patients under one government, and every instance to the contrary is an exception to this well established rule, and the disadvantages resulting therefrom are felt and acknowledged. It is believed that no medical staff, however efficient and faithful, can discharge the duties required when the number of patients exceed three hundred and fifty or four hundred. Even this number is regarded by the "Association of Medical Superintendents of American Institutions for the Insane," as embracing one hundred or one hundred and fifty more than can be with propriety treated in one building or one institution. In a series of "Propositions relative to the construction of Hospitals for the Insane," they say: "The highest number that can with propriety be treated in one building, is two hundred and fifty, while two hundred is a preferable maximum." The word "building" in this connection embraces every part of the institution occupied by the patients, whether a connected series of wards, or distinct and separate departments. Should the Legislature authorize the construction of buildings sufficient to release the crowded condition of the Asylum, and also provide for the increase for the next two years, to be made at Stockton, we would have, at the end of that time, seven hundred and fifty or eight hundred patients in that institution—three times as many as, in the opinion of the "Association of Medical Superintendents," can be treated with propriety in one institution.

Second—It is proposed in making the expenditures at Stockton to add to or complete the new building, a section of which has been finished and is occupied. This building is complete in itself, and nothing will be lost

if no additions should ever be made to it; besides, there are objections to the plan of a nature so serious it would be a great error on the part of the State to enlarge or finish it. Its height being, about one half, four stories, is a very serious objection in the management of the insane. Its entries are small, and its stairways are narrow and steep, the reverse of what they should be for the use of insane persons, many of whom are feeble in physical health, and unable to ascend and descend such stairways to such heights, which they must do from day to day in order to get the requisite amount of outdoor exercise. In case the building should take fire when the patients are in the wards, the consequences from the steepness and narrowness of the stairways would be terrible in the extreme.

Third—Another objection to making the contemplated expenditures at Stockton, is the want of surface drainage, and necessary facilities for good and complete sewerage at that place. The buildings are located upon low flat and black adobe land, cut up with sloughs, and subject in the season of high waters to repeated overflows. Surface drainage, without which much of the business wants of the institution must be attended to under difficulties and inconveniences which would not be experienced in an elevated position consisting of a different soil, cannot well be dispensed with.

Fourth—The fact that the Asylum is situated immediately adjacent to the city, part of the buildings being in fact within the corporate limits of Stockton, is an objection to further enlargement of a more serious character than would probably occur to those who have not been engaged in the management of the insane. The facility thus afforded to the idle and curious to make frequent visits is attended with great inconvenience to the management, and can have no other than unpleasant if not positively injurious effects upon the patients; and yet it will not do to adopt rules excluding all visitors, which would have to be done at Stockton to prevent the evil to which we refer. If located three or four miles from the city, visitors would be much less numerous, and mainly confined to a class of citizens whose inspection of the institution would probably result in benefit to all concerned. So important is it to protect asylums for the insane against the evils arising from the visits of the idle and curious, the "Association of Medical Superintendents of American Institutions for the Insane," in adopting a series of propositions relative to the construction of hospitals, declare that "every hospital for the insane should be in the country, not within two miles of a large town."

Fifth—The topography of the region in which the Asylum is situated is in keeping with all of the accepted theories of marsh miasmatic emanations, and the diseases in Stockton and vicinity must be more or less modified by this poison, if, indeed, many of them do not depend entirely upon its presence. Typhoid, remittent and intermittent, common types of miasmatic fevers, are not uncommon during the summer and fall seasons, and although of a milder form perhaps than have been found in other parts of the State, owing, doubtless, to the ocean breezes which prevail to a moderate extent during the heat of summer, still each season brings malaria with it, and it is seen in the forms of fever referred to. It would be difficult, we think, to account for the large bills of mortality at the Asylum if the presence of malaria should be left out of the list of remote causes of disease. Besides, mosquitoes, common to all malarious regions in this country, are found in great abundance at the Asylum during the summer and autumn. This fact we regard as an insuperable objection, and is of itself a good and sufficient reason why further expenditures should not be made at Stockton in the erection of buildings.

When it is remembered that nearly all, if not every attack of insanity, is preceded by days and sometimes weeks of sleeplessness, and that no case can recover unless good and sound sleep can be induced and continued for some time, the disadvantages experienced in the treatment of insanity in an institution visited with such a source of annoyance will be readily conceived. We leave, therefore, the question to be answered by the members of the Legislature, how good, quiet, and undisturbed sleep can be obtained and continued amidst the surroundings of malaria and mosquitoes.

Other reasons could be given against the proposition to enlarge the Stockton institution, but we deem the foregoing quite sufficient, and trust that every member will cast his vote with no other motive than a desire to do what can be done to the best interests of the State and for the relief of the unfortunate subjects of its charity. But, say some, you must show the correctness of your premises; your arguments are clear enough, and your conclusions are correct—provided your premises are good. Have we not obtained as good results at Stockton as can be expected by adopting a new policy? We answer that the results obtained at Stockton have been much better than could have been reasonably expected, and we find in this fact alone a good reason for the conclusions at which we have arrived. If so much good has been done at Stockton, notwithstanding the disadvantages enumerated, what cannot be done in the way of curing insanity if these were removed? We believe that the percentage of recoveries obtained in an institution located and appointed under the provisions of this bill would be carried to the highest point ever obtained; and the statistics of the present Asylum we regard as one of the best arguments in support of this opinion.

Dr. Kirkbride, physician in chief of the "Pennsylvania Hospital for the Insane," than whom no man in the Union has had more experience in hospital life, or stands higher as a psychologist, expresses the opinion that insanity is as curable as the generality of other diseases, and that under favorable circumstances the recoveries may be run up to seventy-five or eighty per cent. In this opinion Dr. Kirkbride is supported by most of the Medical Superintendents of American Asylums. In further support of this opinion, we quote from an article on insanity published in the "Eighth Census," by authority of the National Government:

"If subjected to proper treatment in its early stages, insanity, in a very large proportion of cases, may be cured." * * * "It may, perhaps, be safely asserted that in cases placed under proper treatment within even one year from their origin, from sixty to seventy per cent are cured. But the earlier the treatment is adopted, the greater is the probability of restoration, and a delay of three months is a misfortune, as it is a detriment, to the patient."

But, it is asked, what are the "favorable circumstances," what the "proper treatment," referred to?

First—Good location, embracing all required for such by the bill under consideration, and it may not be amiss to add that in seeking a proper climate for the location of an institution for the treatment of diseases, mental or physical, the purposes are not accomplished in the choice of one not decidedly unhealthy; this is not enough; it should in every case be one possessing in the highest degree attainable the positive elements of health. The treatment of insanity is divided into the "direct" and "indirect," more generally called the "medical" and "moral." The former consists of the application of the articles of the *materia medica* according to the judgment of the medical officers, and the latter, under the same direction, "includes the exercise," says the authority from which

we have just quoted, "of a mild but firm direction and disciplinary power over the actions of the patients, by which he is gradually restored to healthful habits and wholesome self restraint, and the attempt to win him from the vagaries of his delusions to those mental and manual pursuits which give solidity, strength, and activity, to the normal mind. The means adopted for the attainment of these ends are: the regular hours of hospital life, appropriate manual labor, walking, riding, athletic and other games, attendance upon religious services, reading, and other literary pursuits, lectures upon scientific and miscellaneous subjects, dramas, balls, and other recreations, entertainments, and amusements. In the method of moral treatment the change has been no less than in that of medical treatment. This change may be comprehended in two brief, generic statements; first, the almost absolute disuse of mechanical appliances for bodily restraint; and, secondly, the introduction of the conveniences, comforts, and, to some extent, the luxuries that appertain to civilized life, into the apartments of the patients, and to all parts of the hospital establishments where such means will benefit them."

In support of the figures we have given to show the relative cost of maintaining the "*recent*," or curable, and the "*chronic*," or incurable, cases of insanity, we again quote from the same able article:

"Of twenty *recent* cases treated and cured in the Western Lunatic Asylum of Virginia, the average period during which they were at the Asylum at public cost was seventeen weeks and three days; the total cost, one thousand two hundred and sixty-five dollars; and the average, sixty-three dollars and twenty five cents. Of twenty *chronic* cases at the same institution, the average time during which they had been supported from the public treasury was thirteen years, four months, and twenty-four days; their total cost, forty-one thousand six hundred and fifty-three dollars; and their average cost, two thousand and eighty-two dollars and sixty-five cents.

"The disparity in expense is great, but the actual sum of pecuniary difference does not wholly appear in the figures. The twenty persons cured had again become producers instead of mere consumers; the twenty persons with chronic insanity still lived at the public expense, and so would continue through life. Similar comparative statements, showing like results, have been made in the reports of several of our hospitals."

It is scarcely necessary to say more to show that, as a question of economy as well as that of humanity, it is the true policy of the State to make at once such provisions for the insane as will insure the greatest number of recoveries. Other authorities might be quoted in support of the position we have taken, but we deem it unnecessary to pursue the subject further, trusting enough has been said to enable the members of the Legislature to act understandingly, and in doing so, to provide liberally and cheerfully for the wants of the unfortunate sufferers whose cause we have endeavored to represent in its true light.

Other important matters connected with this question might be discussed with propriety in this connection, but, believing that the fate of the bill will depend upon the disposition of the question as to when, where, and how the expenditures shall be made, we leave all other provisions of the bill to be considered hereafter, should it be deemed advisable. To a clear understanding of it, however, it must be studied as a whole, and we trust that the Legislature will not dispose of it without considering its provisions in detail, and understanding its general as well as special bearings.

TILDEN, Chairman,
DOWNING.

REPORT

OF

Senate Committee on Agriculture

ON

ASSEMBLY BILL No. 321.

REPORT.

Mr. PRESIDENT:—The Committee on Agriculture, to whom was referred Assembly bill Number Three Hundred and Twenty-one, an Act to develop the agricultural interests, and to aid in the construction of a canal for the purposes of irrigation and inland trade in the Counties of Colusa, Yolo, and Solano, have had the same under consideration. The bill proposes to authorize the employment of a competent engineer to make a careful and exact survey of a canal from a point on the Sacramento River, near the county line of Colusa and Tehama, to some point on the navigable waters of Cache Creek Slough, in the County of Solano. The proposed survey is to be made under the authority and general supervision of the Governor, Surveyor-General, and Attorney-General of the State, and a sum not to exceed eight thousand dollars will be placed at their disposal to pay for the expenses of the survey when it shall be properly completed and approved by them. It was represented to your committee that the length of the proposed canal would be at least one hundred and twenty miles, and that its friends would use their best endeavors to make the work at least one hundred feet wide and from five to six feet deep. It was also represented that the slopes of the country along the proposed line were not only very favorable to the construction of a canal, but also to the irrigation of large quantities of land on both sides of it. It is thought that at least six hundred thousand acres of land, much of which is now of merely nominal value, could be watered from the canal, and hence appreciate not less than from fifteen to twenty dollars per acre. We shall endeavor to sum up briefly some of the benefits expected to be derived from its construction:

First—As an aid to drain the waters of the Sacramento River during periods of destructive overflow. It is claimed that the distance from the point of commencement on the borders of Tehama County along the line of the proposed canal to tide water would be little if any more than one third of what it is by the course of the river, and hence that its increased fall and current would flow off a much greater quantity of water than might, at first blush, be supposed. No doubt even one canal of the capacity of the one proposed, if of considerable current, would make quite an appreciable difference in abating the destructiveness of great floods, and we think it is one reason, not to be slighted, why the State should lend its building some encouragement.

Second.—It is represented that the land along the line of the proposed canal is mostly of great natural fertility, as shown by its large yields in very wet seasons, but that in ordinary seasons its yield is so unremunerative that many farms once opened and improved are now abandoned, or will soon be, as matter of sheer necessity. The soil is there fertile and ready for cultivation; the climate and every other condition is all that could be desired. Only one thing is wanting to make the country very productive and fill it with a thrifty population, and that great desideratum the canal will supply. Should it be built, it is estimated that it would add not less than five or six million, and in time double the amount, to the taxable property in the three counties of Colusa, Yolo, and Solano, and that its beneficial influence would even be felt outside of those counties in the wholesome check that the certain annual productiveness of more than half a million of acres of land would give to the fluctuation in prices of necessities of life.

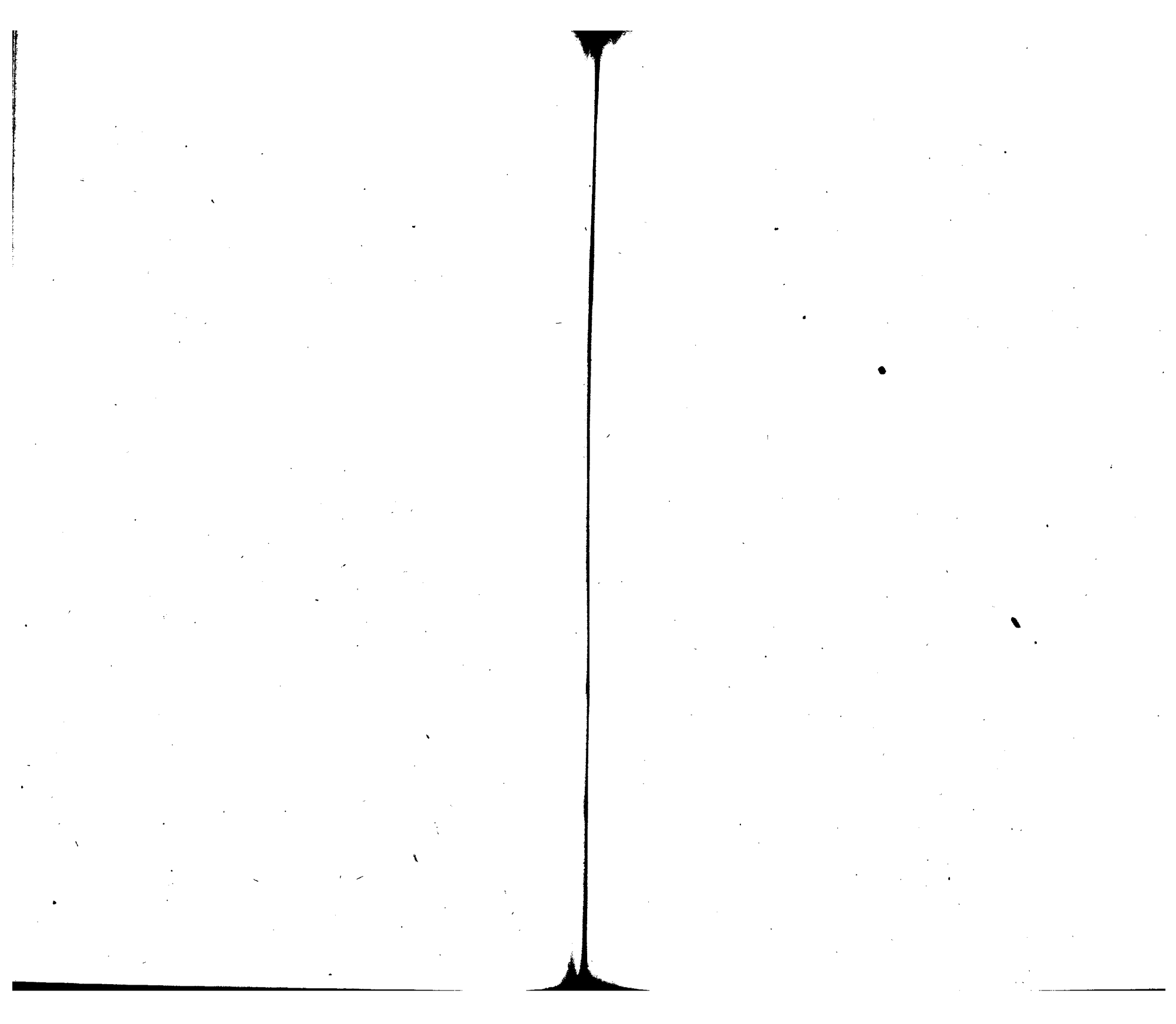
Third.—It is also claimed, and we think with good reason, that the canal could be made available for purposes of inland trade. Railroads will no doubt always be more desirable for passenger trade; but the transportation of wheat, or barley, or any other heavy or bulky freight, can be done cheaper by means of canals than in any other way. This is fully established by the commercial statistics of the States of New York, Pennsylvania, and Ohio. The canal, if built, will be located inland, much of the way from fifteen to thirty-five miles from the river; and it can therefore admit of but little doubt that should it be made of sufficient capacity for the purpose, it would command a great part of the trade of the Counties of Solano, Yolo, and Colusa. It would increase population, and riches and commerce very much, and bring a market and exchange to the doors of people who without it will necessarily suffer inconvenience and much loss because their markets are too far off, and transportation is expensive.

Fourth.—It was also stated to your committee that the leading object of bringing this matter before the Legislature at this time, was to secure a survey under the authority of the State, and mainly because the agents of foreign capitalists who had been consulted, represented that they had no doubt that capital in abundance for building the canal, if a survey demonstrating the feasibility of its construction, as well as the profitability of the necessary investment of capital, should be made under such authority as would challenge the confidence of the parties whom they represented. The very fact of its correctness being duly certified by the Governor and other high State officials, it is contended, would do more than any other circumstance to secure for it the proper measure of confidence in the right quarter. To build it on the scale proposed, would take at least two millions of dollars, and should the State, by a proper expenditure of eight thousand dollars, be able to induce foreign capitalists to invest in the work even a large fraction of the sum named, the money would be wisely expended.

For these and other considerations, your committee have come to the conclusion that it would not be wrong, but wise, on the part of the State to give the work the countenance and support asked for it. There can be no doubt that the State ought and will in time have many canals for purposes of irrigation, and the sooner we have them the better. The physical geography of the State, and the meteorological conditions of

our atmosphere, bind us to their eventual construction. We cannot escape the necessity many years if we mean to have our industrial pursuits attain a high degree of development. A few once built, should the investments prove remunerative, then there will be little trouble to secure the means to construct more. At this time they are yet somewhat experimental, and ought to have some limited encouragement from the State; therefore we beg leave to report the bill back, and recommend its passage.

MYERS,
RUSH,
TUTTLE,
TEEGARDEN.



MEMORIAL

RELATIVE TO THE

ARROYO SECO GRANT.

INTRODUCED BY MR. ROSE.

MEMORIAL.

INTRODUCED BY MR. ROSE.

The Memorial of the Legislature of the State of California to the Congress of the United States respectfully represents :

That at the time California was acquired by the United States, a tract of arable land, containing some fifty thousand acres, well watered and exceedingly fertile, had remained, from its secluded position and its distance from the sea coast, if not undiscovered, entirely unoccupied by civilized man. The tract lies near to the Sierras, and is surrounded by low hills, and beyond them sterile plains, and it is quite probable that up to the time when gold was discovered it had never been visited by white men ; it is entirely certain that no vestige of civilization was ever found upon it. In eighteen hundred and forty-eight, when General Sutter prospected for gold ten miles above, in the foothills, the principal stream which irrigates and fertilizes this valley had not even a name to designate it. It has been known from that time as Sutter Creek. The same is true of its second principal stream, named for an early miner, Jackson ; another still from a miner, Amador ; and curious enough, the grant which will hereafter be mentioned takes its name from a stream christened by the Mexican miners, *after eighteen hundred and forty-eight*, Arroyo Seco, or Dry Creek, and the village in which they lived is still known as Drytown. The valuable belt of mineral lands embracing the villages of Drytown, Amador, Sutter Creek, and Jackson, lies ten miles above and to the east of this valley, and was prospected by Sutter, Amador, Jackson, and others in the fall and winter of eighteen hundred and forty-eight and nine, and and at that time this valley was *entirely unoccupied*.

In *eighteen hundred and forty-nine* it attracted the attention of enterprising men, who found it as Nature had left it, unoccupied and unclaimed. They believed, and were justified by all appearances in this belief, that this was public land belonging to the United States. They were principally western men, who had from their youth been familiar with the beneficent system of land laws in the new and unoccupied Territories of the Union, and they settled at once in the beautiful valley, each marking out as near as he could his hundred and sixty acres, and each felt as certain of his right so to do and as secure of his possession as any heir could to his ancient inheritance. They knew the country had been ceded to the United States ; they knew the lands were public lands,

for there was neither occupant nor claimant—not a vestige of a house, not a hoof of stock, nor a settlement nearer than Sutter's Fort, forty miles distant. These lands were exceedingly fertile, and convenient to the best market for farm produce in the world—the mines of California. As soon as the capacity of these lands to produce both grains and fruits had been fairly tested by these hardy pioneers, they became at once exceedingly valuable. Improvements were commenced of the most permanent character; orchards and vineyards were planted; beautiful and expensive dwellings were erected; steam power was introduced; large mills for converting their grain into flour were built; hotels, and stores, and villages sprung up as if by magic from the plain; extensive ditches and costly aqueducts, both for the purpose of irrigation and for working the mines upon the borders of the valley, were constructed; while churches and schoolhouses told plainer than words could convey who were the settlers of Ione Valley; "and this waste land, where no man came or had come since the making of the world," blossomed as only California valleys can under the hand of experienced cultivation.

This picture is not overdrawn; and but feebly conveys an idea of the prosperity, progress, and refinement of the settlers in this valley for the first ten years of their California life. The value of the improvements which they had placed upon the lands could not have been less than *eight hundred thousand dollars*. From that date words will fail to depict the calamities of these most unfortunate families. Their lands and improvements have been taken from them without any compensation whatever. A Mexican grant has been confirmed to the whole of the valley. The land has been patented by the United States to strangers, and the pioneers, the early settlers, the men who bore the heat and burden of the day, have been stripped of their all, and many of them now in the decline of life turned literally out of doors.

All right thinking men naturally ask, is there any redress for this calamity? can any compensation be made these families for their great loss? In plain words, ought the General Government to stretch forth its powerful arms for the relief of this distressed community? If it can be shown that they settled these lands under encouragement from the United States, and made these improvements under implied guarantee of title, it will not, it is thought, be difficult to obtain from Congress an affirmative answer. If it can be further shown that they obtained actual title from the United States, all question will be at an end. That many of them did so is a fact recorded in the archives of the Government.

To establish the right of this community to relief from the General Government, it will be necessary to give a brief history of the ARROYO SECO GRANT, upon which a patent to their lands has been issued.

It appears from the records that in the year eighteen hundred and fifty-two, on the first of November, Andreas Pico filed a petition before the Land Commissioners for eleven leagues of land, known as the ARROYO SECO GRANT, and lying in whole or in part, as the petition states, in Sacramento County, but giving only certain external boundaries, which embraced a scope of country containing at least six times the required amount of land; and at this time, it must be borne in mind, Ione Valley and the lands referred to in this memorial lay not in Sacramento, but in Calaveras County, which barely cornered on Sacramento. The question is not now whether Pico had any valid grant, but did his claims for eleven leagues of land lying *in whole or in part in Sacramento County*, impart any notice whatever to the settlers of Calaveras County? If they ever heard that such a petition had been filed before the Land

Commissioners, in San Francisco, they certainly never once thought that it referred to their valley, for the external boundaries claimed by Pico, as well as the county, seemed clearly to exclude them. Pico's eastern boundary came only to the foothills, *which rise sharply defined to the west of Ione*. It is confidently asserted that this claim was never at that time heard of in the valley; if it ever was, the next news heard from it was that it had been rejected by the Land Commission on the twenty-seventh day of February, eighteen hundred and fifty-five. Six years had now passed in undisturbed possession, with no adverse claim to the lands on which they resided; for Pico stated in his petition to the Land Commissioners that there was no adverse claimants to the lands which he desired, and as there was at least fifty leagues of vacant and unoccupied land within the external boundaries which his petition set forth, it neither imparted notice nor even gave a hint of danger to these *bona fide* and actual settlers. Pico said: "Somewhere in that space of country bounded on the north by the Cosumnes River, on the east by the foothills, on the south by the Mokelumne River, and on the west by the old Sacramento and Stockton trail, I claim eleven leagues of land, and the land I desire is *vacant*, unoccupied land—there is no other claim to it." And his claim could have been satisfied five times over and never have touched them. Ought they, as the most scrupulously prudent men, to have thought the shaft was aimed at their peace? They did not think it was, and they continued to build, and improve, and enter into the fruit of their labors. They had the most unbounded confidence that the General Government would now, as she always had, protect her hardy pioneers.

On the twelfth of May, eighteen hundred and fifty-five, notice of appeal from the Land Commission to the United States District Court was filed, followed on the eleventh of June by a petition for review; and on the twenty-first day of April, eighteen hundred and fifty-six, the Court reversed the action of the Land Commission, and confirmed to Andreas Pico eleven leagues of land somewhere within his said external boundaries. No survey had yet been made; the grant had been *confirmed* but not *located*. And it must steadily be borne in mind that there was abundance of land to satisfy the grant and leave the settlers alone. Would not the United States undoubtedly see that this was done? Before proceeding, however, to the history of the surveys, we will complete the legal history of this calamitous grant. On the third of October, eighteen hundred and fifty-six, an appeal to the United States Supreme Court was perfected and the transcript sent up, and without ever coming to a hearing was, May fourth, eighteen hundred and fifty-eight, on motion of Attorney-General Black, dismissed, and the mandate of dismissal filed in San Francisco on the third of September of the same year. This, of course, ended the litigation. It must steadily be borne in mind that the United States during all this time was the party in interest, and by her highest officers managed this important suit, involving, it is true, to herself only the price of the land, some sixty thousand dollars; to her citizens—her children—the increased value of improvements and cultivation, amounting to nearly or quite a million. We have now reached the autumn of eighteen hundred and fifty-eight, ten years subsequent to the discovery of gold, and nine since the valley was first settled. Many of the farms were worth a hundred dollars an acre, and in the character and value of their improvements would not suffer by comparison with the most highly cultivated sections of the old States.

The United States had surveyed and laid off into townships and sec-

tions nearly the whole of the valley, and have actually sold, as the records of her Land Office at Stockton show, four thousand nine hundred and ninety-six and forty-nine one hundredths acres; the balance had been all or nearly all pre-empted. We now ask, in all candor and kindness, if the United States could have so located these eleven leagues of land belonging to Pico as not to disturb these settlers, and did not do it, ought she not to reimburse them for their losses? To determine this question, so vital to their hopes, let us proceed with the history of the surveys.

Sometime during the summer of eighteen hundred and fifty-six, Andreas Pico himself came with surveyors into the district, and proceeded to select and mark out his eleven leagues. It would seem that if any person knew where the land was, he, the grantee, was most likely to possess this information. He located his eastern boundary *ten miles* further east than the line of the present survey, and included within his boundaries all the rich belt of mineral lands heretofore spoken of, and with the invaluable mines, assumed ownership of the thriving villages of Amador, Sutter Creek, and Jackson, the county seat of the new county, which in eighteen hundred and fifty-four had been carved from Calaveras. He established his boundaries by permanent monuments, and proceeded to sell and deed lands, as the records of Amador County will show, to numerous purchasers, across all this range. The wealthiest and most intelligent quartz miners in this State bought his title.

It will be remembered that this survey of eighteen hundred and fifty-six left out a large portion of those persons who are now included in the present survey, and these facts are stated to render the position impregnable that these settlers believed, and were justified by the facts surrounding them in this belief, that they were upon the public lands of the United States. In the meantime, to render this belief a certainty, the United States surveyed all the valley lands to the west of Pico's location, and sold them to these very men who now are memorializing Congress for relief. But time rolled on; the survey had not yet been confirmed, the mines were growing poorer and the valley richer, and Pico in his great anguish, when he discovered that he had not included within his lines all the valuable property between Cosumnes and Mokelumne Rivers and the old Stockton trail and the foothills, proceeded at once to change the lines of his survey.

In August, eighteen hundred and fifty-nine, that grant was surveyed by the United States Surveyor-General for the State of California, J. W. Mandeville, Esq. The eastern line of Pico's first survey was carried ten miles west, and of necessity included many of the settlers who had purchased these lands of the United States. It must constantly be borne in mind that this was a *floating grant*—that there was at least six times as much ground contained in its exterior lines as the grant called for—that all the lands outside of this valley were vacant lands, and that this survey was persistently and openly made to include the most valuable farms, and was made by a United States Surveyor-General, and confirmed by a United States District Judge.

This survey was confirmed September, eighteen hundred and sixty-two. An appeal was taken from the order of confirmation, and this appeal, on motion of Attorney-General Bates, was dismissed February third, eighteen hundred and sixty-three. Not until this date were the settlers left without hope.

Soon after this confirmation, a patent was issued, and a company of United States dragoons ordered into the valley to assist the United

States Marshal in ejecting the settlers. Let us quickly draw a veil over this sad picture, and state at once the plan we propose for redress.

We appeal to Congress, and respectfully pray that a Commission of disinterested and qualified men be selected, and authorized, at the expense of the General Government, to visit the land in question, to inquire into and ascertain all the facts of the case, to take testimony in relation thereto, and to award to each settler such amount as may by said Commission be deemed just and right. And Congress is further requested to make such appropriation as will be necessary to carry out the objects of said Commission.

Such proceedings on the part of Congress your memorialists believe to be consonant with reason and justice, and to be sanctioned by precedent.

His excellency the Governor is requested to forward a copy of the above memorial to each of our delegation in Congress.

REPORT
OF
Assembly Committee
ON THE
CULTURE OF THE GRAPEVINE.

REPORT.

SACRAMENTO, April 1st, 1866.

MR. SPEAKER :—Your Committee on the Culture and Improvement of the Grapevine beg leave to submit the following report :

It is a fact established beyond controversy, that California as a grapevine growing country has no superior in any part of Europe. We do not infer by this assertion that we now produce wines superior to those of the celebrated vineyards of France, Hungary, or Germany ; but we do raise a sure crop every year, thanks to our superior climate and virgin soil, and the time is not far distant when we will compete for quality with the very finest of the wines produced by the above mentioned countries. The time will come when our foreign imported vines will have furnished us with the generous juice they so abundantly produce in their new situation, and when said juice will have attained the required age.

However, this so important branch of industry needs a fostering care and aid from the State. These facts were fully comprehended by the preceding Legislatures who honored it with a Standing Committee, and appointed a Commission to report on the best mode of promoting said interest. One of this Commission went to Europe, imported over one hundred thousand foreign vines, of three hundred and eighty distinct varieties, for the use of the State. These, to the great detriment of the vine growers throughout the State, were never distributed, for the simple reason that the Legislature neglected to act upon the matter.

It is not enough to know that we have a fine soil and climate for the production of the vine, and that our vintners may find out the best mode of making wine and raisins ; this will no doubt be the case some time hence ; but it is our duty to hasten this time, and not leave it to a future generation while we can accomplish it in our own.

The Governments of the oldest and most celebrated wine growing countries, such as France, Hungary, and Germany, have established experimental vine gardens, where youths are educated, vines are planted in soil of all qualities, artificially composed by analyses ; where experiments are made with wide and close plantation, cultivating to stakes, trellises, arbors, or line trees, or close to the ground. There the temperature is closely watched, whether the atmosphere is moist or dry, the effect it has upon the different varieties, and the wine made from them. Professors of the highest order and talent are employed, with high salaries—men not only of theoretic, but also of practical knowledge.

These men become gray and aged in their office, and still learn every day, and disclose some new fact to the wine growers of their country, worth millions of dollars. It is through this great aid of the Government that the vintner proceeds without hesitation; he knows by the public reports that such and such vines will grow in such and such soils, and produce such a quality of wine. He need not experiment six years, and then find out that he has the wrong variety of vine planted, one which will not produce well on that soil or in that climate or atmosphere, or if so, give an inferior wine. You cannot judge by general character of these things, nor by taking a book of analysis from Europe, and plant your vines on such soil; everything must be in harmony—soil, sun, locality, and atmosphere. Our vine growers are working in the dark, having no scientific experiments as guides—no, not even precedents whether such and such vines will thrive.

Many planted foreign varieties, and after six or seven years' trial condemned them and cut them out, and this because they did not know their soil or climate was not adapted to these same species of vines, which in a different locality may have flourished well. The very doubt entertained by the vintner, whether a new variety will thrive prevents him from planting largely of foreign varieties, knowing that it would require from five to seven years to prove their utility. The expense of experimenting is too great for single individuals; besides, our population, with few exceptions, knows nothing of vine growing, consequently it would be difficult for such to know why and wherefore the vine did not thrive, bear well, or make bad wine.

Men can only experiment who thoroughly understand the nature and wants of the vine. No man would undertake to examine a school boy if he could not himself spell, and prove correctly whether right or wrong.

The immense increase in the last five years of vines planted, proves conclusively that California is the very best vine growing country in the United States, and that this State will be to the Eastern States, China, Japan, and to the whole Pacific Coast, what France is to Europe, and to America at present. And this very increase, astounding as it is, would have been much greater had it not received a check by the congressional Act imposing so high a tax, as internal revenue, amounting to one fourth of its gross value.

Col. Haraszthy, in eighteen hundred and sixty-three and eighteen hundred and sixty-four, while in Washington, for the protection of the vine growers of California, prepared tables showing the imports of wines and brandies from eighteen hundred and forty to eighteen hundred and sixty-one, the quantities in gallons, the price in dollars, and the average price per gallon, with annexed arguments why wine should be charged with specific duty, and not ad valorem, and why the internal tax should be reduced. These tables of twenty years, in part prepared with enormous labor, were laid before the Committee of Ways and Means by Col. Haraszthy, and through its instrumentality were disclosed the immense frauds practised on the General Government, after which a specific duty was put upon imported wines and liquors. The internal revenue tax was also reduced from ten cents per gallon to five cents on wine, and from two dollars to twenty-five cents per gallon on brandies. Among the arguments used in the pamphlet, Col. Haraszthy proves, from the reports of the California Legislature's Standing Committee on Vines of eighteen hundred and sixty-two and of eighteen hundred and sixty-three, with these words:

"It will be seen from the report of the Standing Committee on the Culture of the Grape, in Assembly, eighteen hundred and sixty-three, that there is a large difference between the number of vines and acres reported by these two committees. The committee of a year previous reports twenty millions of vines on twenty thousand acres of land.

"The committee one year later reports ten million five hundred thousand vines, on eleven thousand five hundred acres. Both committees derived their information from the Assessors' return to the Surveyor-General. What is the cause of this? Simply that Congress put a tax on vineyard lands of thirty dollars per acre. One acre producing an average of six hundred gallons, at five cents per gallon, will make thirty dollars, when other lands lying adjoining, and used for grain, vegetables, or orchards, will not pay a cent Federal tax. In consequence of this tax, when the Assessor came around to assess, and at the same time to take the statistics according to the law of the State, the vine grower gave the number of his bearing vines, omitting the newly planted vineyards. Being compelled to abandon the same and use the land for something else, or in most cases the land not being fit for anything but the vine, he abandoned the same entirely. This tax at once stopped the extension of planting vineyards, and not only that, but as seen from the two reports, the total abandonment of nine million five hundred thousand vines, and eight thousand five hundred acres of vineyard, which did not cost less than three hundred and forty thousand dollars for planting. This is a heavy loss for an enterprising people, whose aim was to develop the resources of the State, and by so doing save ten to fifteen million dollars in gold from being sent to foreign nations for an article which we can raise ourselves as good as they."

The above argument had its proper effect; a specific duty was put upon all imported wines and brandies, and the California vine growers took a new start and new interest in their plantations. But a year was lost, and last Congress again increased the internal revenue tax upon wine to five per cent more, without increasing the duty upon the imported wines and liquors. This is a ruinous policy of Congress—it "kills the goose that laid the golden egg."

We would earnestly recommend the passage of a joint resolution instructing our Senators and requiring our members in Congress to use their best efforts to reduce the present internal revenue tax on wine and brandy to the original tax of five cents for wine and twenty-five cents for brandy, and increase the duty on foreign wines.

We will refrain from enumerating the respective yields per acre of different counties; prior legislative committees have already stated this, and three years later experience confirm their statements. It is difficult for your committee to give an exact account of the number of vines now planted, for the reason that the Assessors of the different counties neglect to report correctly to the State Department. This neglect is unpardonable, and the Assessors should be reproved by the respective officers to whom the law required them to report.

In absence of authentic documents, we give the statement of the *Mer-cantile Gazette*, which we think will be near enough to rely upon in absence of official reports:

"THE VINICULTURE OF CALIFORNIA—ITS PROGRESS AND PROSPECTS.

"It is one thing to believe and know that in California we have one of the best vine growing and wine producing countries in the world, and another to impress that knowledge and belief upon the people abroad. The lack of intelligence on this subject is most remarkable. We are reminded of this by reading in a recent article from one of the best informed and usually most reliable of the commercial press of the Atlantic States, the *New York Journal of Commerce*, a statement like this: 'Ohio is the vineyard of the west, yielding more than one third of the entire wine produced by the United States.' To prove this assertion, the writer produces the following table of the production of wine in those States where most of it is made, for eighteen hundred and fifty and eighteen hundred and sixty:

	1850. Gallons.	1860. Gallons.
Ohio	48,207	568,617
California.....	58,055	206,518
Kentucky	8,093	179,948
Indiana	14,055	105,895
Total.....	128,400	1,060,978
Whole United States.....	218,028	1,617,957

"Our New York cotemporary concludes its article by re-asserting that 'more than one third the wine made in the United States is made in Ohio, and a large portion of the residue in Kentucky and Indiana, adjoining.'

"The idea of taking a table of the products of eighteen hundred and sixty as a basis for calculating the products of eighteen hundred and sixty-five, for California at least, is most fallacious. They seem to forget that California is a *progressive* State. The *Journal of Commerce* speaks in the *present* tense, when it asserts that 'more than one third the wine made in the United States is made in Ohio,' etc.

"Now we believe we may state, with far more accuracy, that more than one half of the wine produced in the United States is made in CALIFORNIA. Let us fortify this opinion by adding a few facts and figures, from the best authorities extant. The quantity of wine produced in Sonoma Valley only, in eighteen hundred and sixty-three, was estimated at ninety thousand gallons; in eighteen hundred and sixty-four, at one hundred and fifty thousand gallons; and in eighteen hundred and sixty-five, at about four hundred thousand gallons. The Buena Vista Vinicultural Society alone has one million one hundred and twenty-eight thousand one hundred and twenty vines planted, which, when in full bearing, it is estimated from experiments already made will produce six hundred and fifty thousand gallons of wine and ten thousand gallons of brandy per annum. And the whole expense of wine making, from the field to the cask stored in the cellar, was, in eighteen hundred and sixty-four, as stated by the Managers of the society above alluded to, at the rate of

twenty dollars per one thousand vines, or four cents per gallon of white wines produced—superintendence, interest on cost, wear and tear of casks, and improvements included. This was the rate of products from fifty thousand vines, in eighteen hundred and sixty-four, the season of drought, it will be recollected; and that was from vines not yet in full bearing. Vines planted previous to eighteen hundred and fifty-five produced eighty gallons to the one hundred vines; they will, probably, by this time produce quite one gallon to the vine.

"*Estimated Wine Product of California for 1865.*

	Gallons.
Los Angeles.....	1,000,000
Sonoma	400,000
Napa Valley.....	100,000
San Joaquin Valley	100,000
Solano County.....	50,000
Amador County.....	50,000
Sacramento County.....	50,000
Grass Valley.....	25,000
Other districts, say.....	225,000
Total	2,000,000

"In addition to the counties and districts named above, the vine is cultivated more or less extensively in Yolo, Colusa, Placer, Butte, Tulare, Nevada, Yuba, Santa Clara, and many other counties.

"To indicate the counties in California favorable to the growth of the grape, we give the following list, with the number of vines in each county in eighteen hundred and fifty-eight, some of which were then two or three years old, and some—as at Los Angeles and the various Missions—were planted many years prior to that period. We also give the estimate for eighteen hundred and sixty-five, upon the basis explained in the paragraphs which follow this table.

"*Counties in California adapted to the growth of the Grape, with the number of Vines in each county in 1858 and 1865.*

Counties.	1858.	1865.
Alameda	175,000	1,575,000
Amador	20,000	180,000
Butte	80,707	726,363
Calaveras.....	24,185	217,665
Colusa	4,000	36,000
Contra Costa.....	42,640	383,760
Del Norte.....	1,050	9,450
Carried forward.....	347,582	3,128,248

Counties.	1858.	1865.
Brought forward.....	347,582	3,128,248
El Dorado.....	77,472	697,248
Fresno.....	3,000	27,000
Humboldt.....	915	8,235
Klamath.....	2,000	18,000
Los Angeles.....	1,650,000	14,850,000
Marin.....	600	5,400
Mariposa.....	15,000	135,000
Merced.....	15,000	135,000
Monterey.....	50,000	50,000
Napa.....	90,000	810,000
Nevada.....	8,000	72,000
Placer.....	5,000	45,000
Plumas.....	400	3,600
Sacramento.....	327,900	2,951,000
San Bernardino.....	75,000	675,000
San Diego.....	50,000	450,000
San Francisco.....	1,000	9,000
San Joaquin.....	40,000	4,112,792
San Luis Obispo.....	10,000	90,000
San Mateo.....	40,000	360,000
Santa Barbara.....	90,000	810,000
Santa Clara.....	513,000	4,617,000
Santa Cruz.....	20,000	56,000
Shasta.....	25,000	225,000
Sierra.....	3,500	31,500
Siskiyou.....	2,000	180,000
Solano.....	52,869	554,178
Sonoma and Mendocino.....	87,621	2,000,000
Stanislaus.....	1,800	162,000
Sutter.....	50,000	450,000
Tehama.....	5,500	49,500
Trinity.....	1,151	10,359
Tulare.....	30,000	270,000
Tuolumne.....	57,520	517,734
Yolo.....	155,425	1,398,825
Yuba.....	50,000	450,000
Totals.....	3,954,261	40,172,659

It will be seen that our present number of permanently planted vines amounts to forty million. From these, when in full bearing, we reasonably expect forty millions of gallons of wine, or twenty million gallons of first quality of wine, two million gallons of pure brandy, and one million gallons of pure vinegar, and all this in the short space of eight years. In eighteen hundred and fifty-seven the whole of California had permanently planted two million two hundred and sixty-five thousand and sixty-two vines. At that period the vines were only planted on spots where they could be irrigated; but Colonel Haraszthy first introduced into Sonoma the planting of vines on the mountains and chapparal

lands without irrigation. The success was much greater than anticipated, and in the winter of eighteen hundred and fifty-eight, at the request of the State Agricultural Society, Colonel Haraszthy wrote an essay on the culture of the grapevine and making of wine. It was brief and explicit. The Legislature ordered the printing of the essay, and had it distributed throughout California. The prominent newspapers made extracts, and men who never dreamed before of cultivating the vine entered the new enterprise with spirit. The result is before the world; who will gainsay that the few hundred dollars spent in printing this pamphlet was not a good investment for the people of this State and the people of the United States. How much more, then, would not our citizens be benefited had we the necessary experimental gardens and the proper persons to teach our young men not only the art of conducting the culture of the vine but also the manner of making therefrom wine and brandy. But this business is in its infancy; the increase will be still greater than heretofore. We have examined the prospectus of a company formed by Colonel Haraszthy, in Philadelphia, which in two years time contemplates planting ten millions of vines in Santa Barbara County, and another company in New York is also negotiating with Colonel Haraszthy to plant an additional ten millions of vines.

Besides the twenty millions of vines these companies intend planting for their own account, they contemplate planting for people of small means, giving them fifty acres of land, planting and cultivating ten acres with vines for four years, and in return receive their pay by instalments in four years time, either in money or in labor. This is an easy manner for people of modest means to become independent in the short space of four years.

Till now, the East has known but little of our resources in this branch; of late, however, the people there have been awakened by private energy and the writings and lectures delivered by Col. Haraszthy and others, in the Cities of Philadelphia, Boston, New York, etc. Your committee verily believe that the Legislature should appropriate a moderate sum to have a report written of the immense resources of our State in this branch of husbandry, enumerating the respective yields per acre, the number of acres, and, in fact, a thorough guide book. Such a book, issued under the authority of the State, would, of course, be reliable and correct, and be credited much more than the writings of private individuals. It is a conceded fact, that when European or Eastern people read or listen to lectures enumerating the quantity of produce to the acre, the incredulous smile is perceptible on many faces, but when the author or lecturer supports his assertions by documents originating from stable authority, such as the reports of the State Agricultural Society, or the Journals of the House, and Senate committees, then is the lecturer accredited with amazement.

It is such a work your committee recommends having prepared by a competent person or persons, and have published by State authority, distributing the same through the Eastern States free of all expense. That such a course will bring capital by the millions of dollars, and an industrious population to make their happy homes in this nature favored State, who will doubt?

You have not less than forty millions of acres of land eminently adapted to raising the vine, which is not fit for any other purpose whatever, not even for sheep raising. There is no legitimate business which will so surely and certainly remunerate the husbandman as the raising of the grape, if proper care and knowledge is employed; and it behooves us to

provide for the education of the people, either directly in the experimental gardens, or by the reading of the weekly or monthly reports of the institution which the State should erect. France alone has over twenty such first class gardens that we know of, and many more secondary ones, distributed throughout the centres of the wine producing districts. In Germany every principality where wine is made keeps up at least one such an establishment at high cost. In Hungary it is the same, and we will do injustice to our own best interests if we do not establish at least two in the State—one in the southern portion, and another in the northern portion; one experimental garden being incapable of deciding thoroughly the best varieties for the whole State. Yes, we would go farther than this: we would authorize the Supervisors of counties to make arrangements with intelligent vintners, so employed, for a small remuneration from their respective counties, who should report monthly to the Superintendent according to instructions. The vines raised in the State gardens, as well as those in the county gardens, should be sold at a moderate price to the citizens in general. This would support in part, if not in whole, the institution. The benefit of such an establishment to the State would be incalculable. It would rapidly advance the raising of generous wine, and put us in a few years on an equal footing with our European competitors.

Upon closely reflecting upon the magnitude of this wealth given us by our fine climate and happy fertility of our soil, we must be struck with astonishment. Take into consideration that one man can comfortably attend to ten acres of vineyard, which with proper cultivation will yield ten thousand gallons of wine. This, at a price only of twenty cents per gallon, is two thousand dollars. Is not this a result worthy the laborer? Now divide this sum by three hundred working days, and you have six dollars and sixty-six and a third cents per day to every man so engaged. This is high wages for a working man.

While the vintner is permanent, improving around him daily, and as he grows wealthy and affluent, the United States as well as California reaps a benefit through the tax he pays. Such a population makes both Federal and State Governments not only wealthy, but also powerful, increasing their commerce a thousand fold. Foreign gold must come from abroad to pay for our wines and brandies.

Some may argue that the production of wine may be overdone. This is erroneous. We see from the works of Col. Haraszthy, when Commissioner of this State, that in eighteen hundred and sixty, the wine producing countries of Europe produced in the aggregate on twelve million two hundred and eighty-five thousand seven hundred and eighty acres of land three billion one hundred and seven million thirty-nine thousand gallons of wine, of the value of seven hundred and seventy-six million seven hundred and fifty-nine thousand seven hundred and fifty dollars. But in spite of this seemingly large amount of wine, more than half that amount is annually made, to fill the demand of consumers, which never saw a grape bunch, nor even a grape berry, but which is chemically composed, and exported to foreign countries. These vine growing countries are constantly increasing their plantations whenever nature or art permits them to do so. They find that the consumption increases faster than they can extend their vineyards. But they must come to a halt, for now nearly every foot of land is occupied.

We are credibly informed that since the year eighteen hundred and sixty, the produce in wine increased sixty per cent, and the manufacture of spurious wine over a hundred per cent. But let us look at the tables

prepared by Col. Haraszthy for the Committee on Ways and Means. These prove that our people have increased their consumption of wines and brandies more than one hundred per cent from eighteen hundred and forty-one to eighteen hundred and sixty; and in the last year one hundred and forty per cent. But it could not be otherwise. The American people, finding that ardent spirits were injurious to the health, destructive to the comfort, love, and respect in families, have gradually adopted the use of wine, and this will become more universal when they can have, at cheap prices, pure native wines. This fact alone, which shows the tendency of wine to improve the morals of our people, should urge upon every member upon this floor the necessity of aiding by every means in their power this branch, so promising to our good and our commonwealth.

If California will progress in the same ratio with the extension of her vine culture as she has since eighteen hundred and fifty-eight to the present, ten years hence she will export not less than forty million of dollars worth of wine and brandy annually. We doubt not that even in our generation, California will yet overtake France or Hungary. The former, in eighteen hundred and sixty, produced wine to the value of two hundred and twenty-one million dollars, and the latter, to the value of one hundred and seventy-eight million five hundred thousand dollars. To effect this result without failure, it rests with the Legislature of California in a large measure, and upon the Federal Government, not to oppress this branch in its very infancy. The adoption by our National and State Governments of a generous and fostering instead of an onerous and proscriptive policy toward the wine growing interest, would cause immense if not incredible increase in their production and revenues. The red lands of the foothills, the soil of which is largely intermixed with gravel and rotten or decomposed granite, which retain throughout the cooler hours of the night the heat of the solar rays, warming, and causing to grow the sensitive roots of the vine—these lands that are, under the present ruinous system, left barren and non-producing, would under a more generous policy form the seats and homes of a large, industrious, and frugal population, and groan beneath millions of tons of nectar-bearing fruitage.

The gravel and semi-granite ranges of Placer County alone, would, if this industry was encouraged, ultimately furnish comfortable homes for many thousands of this valuable class of citizens, and produce millions of wealth and revenue annually.

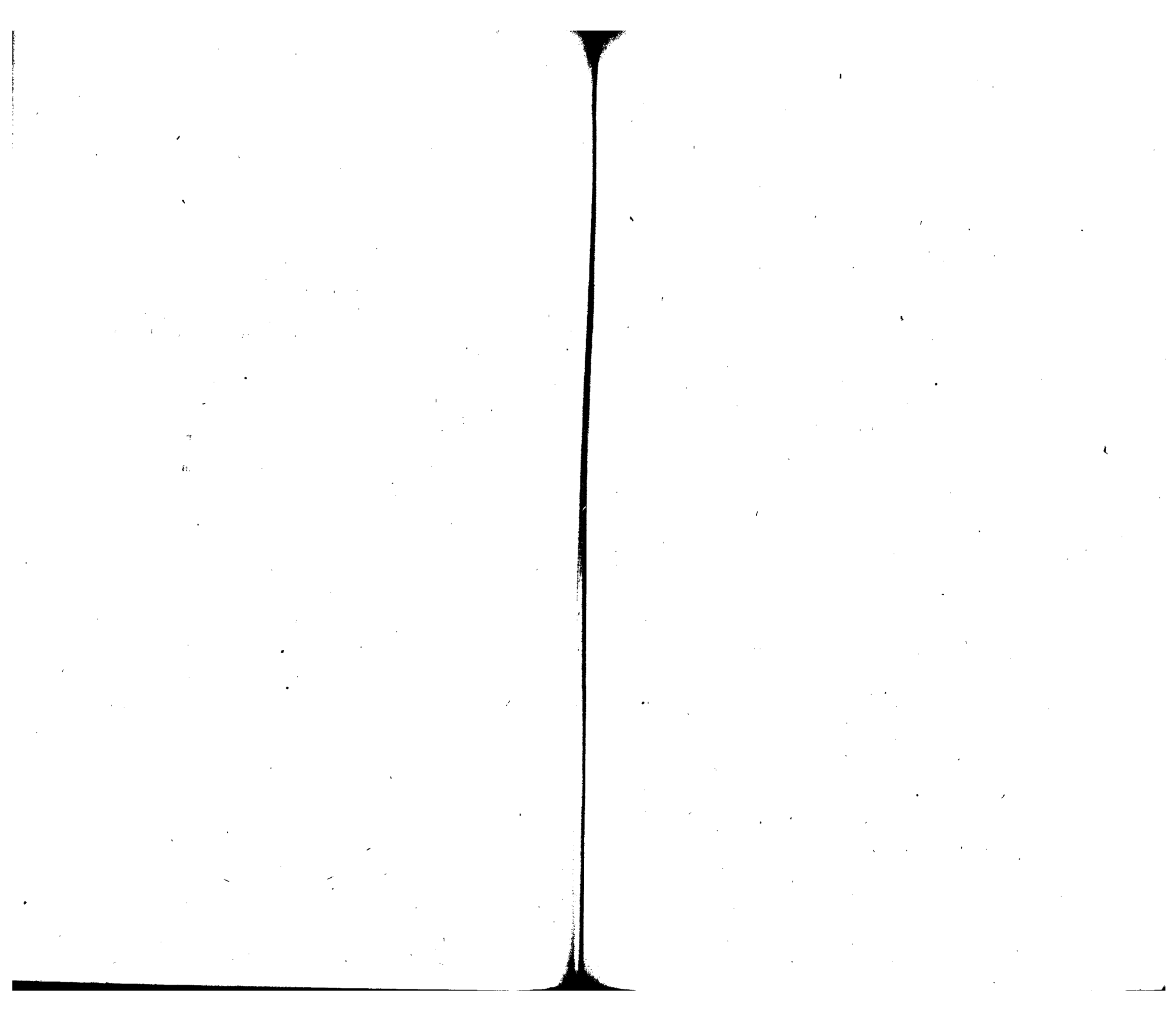
In view of these and many like considerations, we can only reiterate our pressing suggestion that the most liberal policy possible should be adopted by the Government as both the wisest and most economical.

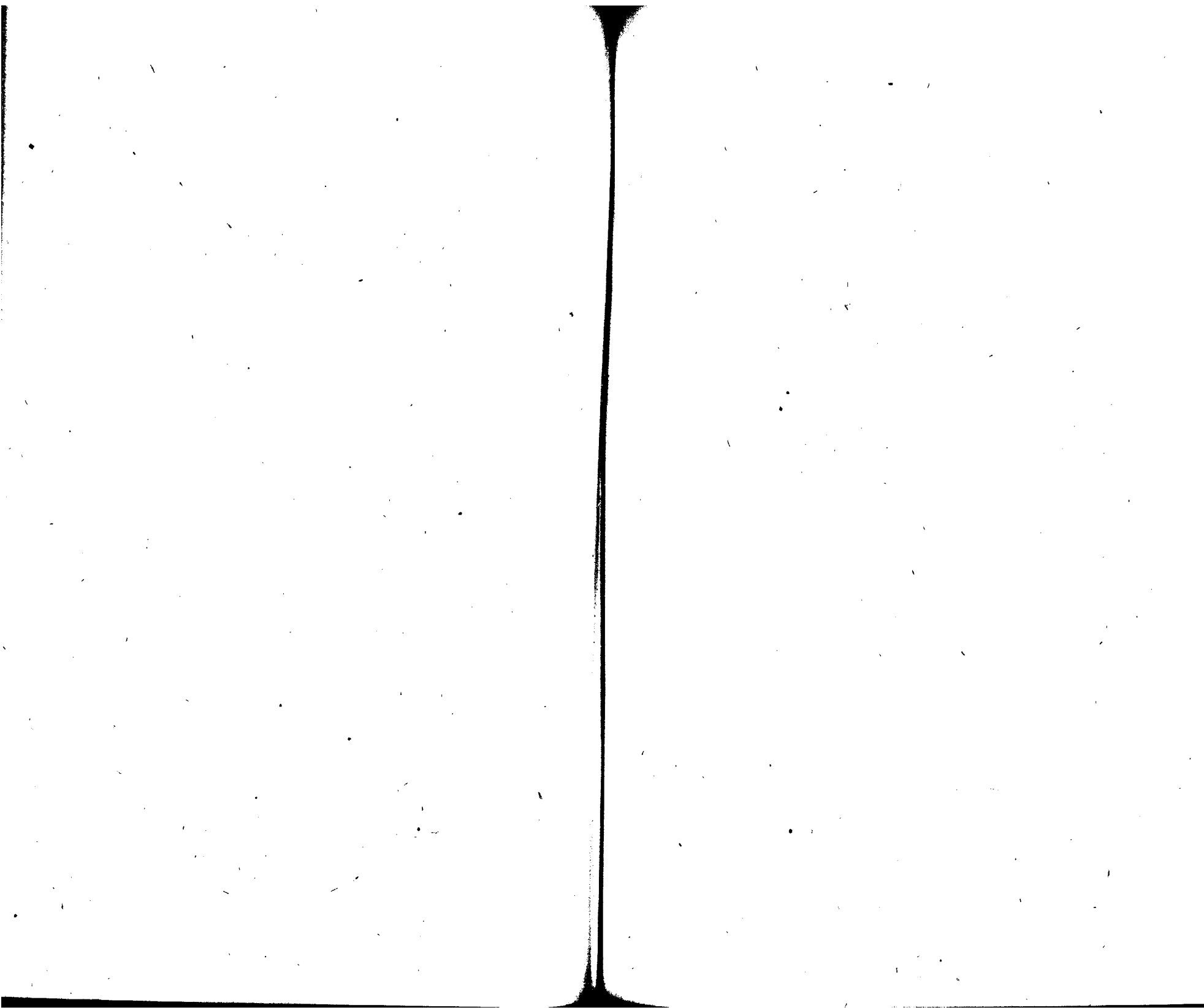
Your committee have received samples of wine from Meister Brothers, of Solano County; of R. M. Nickerson, of Placer County; and Crabtree, of Sutter County.

These gentlemen have taken a warm interest in the culture of the grape and the manufacture of wine. The samples submitted by them bear ample testimony of their success in its manufacture.

All of which your committee respectfully submit.

BOSQUIT, Chairman.
IRELAND,
BLEDSOE,
GOODAIL,
ZUCK,
MACE.





REPORT

OF THE

Assembly Judiciary Committee

ACCOMPANYING

ASSEMBLY BILL No. 500.

REPORT.

Mr. SPEAKER :—Your Committee on Judiciary, to whom was referred the appeal of F. J. Thibault from the decision of the State Board of Examiners, disallowing his claim for the sum of one hundred and fifty-four dollars and five cents upon what is known as a "State Indian War Bond," have had the same under consideration, and beg leave to report as follows:

The said bond was issued on the eleventh day of August, eighteen hundred and fifty-four, under the provisions of an Act of the Legislature of this State, entitled an Act authorizing the Treasurer of the State to issue bonds for the payment of the expenses of the Mariposa, Second El Dorado, Utah, Los Angeles, Clear Lake, Klamath and Trinity, and Monterey expeditions against the Indians, approved May third, eighteen hundred and fifty-two. The Board of Examiners refused to allow the said claim for two reasons:

"*First*—That it was never contemplated by the Act under which the bond is issued that said bond should be paid by the State, but it was contemplated that the same should be paid by the United States Government;" and,

"*Second*—That at the time said bond matured the indebtedness of the State exceeded the limit prescribed by the Eighth Article of the Constitution; and the debt is contracted under said Act, although there is no provision therein to submit the same to a vote of the people, nor does the same purport to have been passed in a case of war, to suppress insurrection, or repel invasion."

It is doubtless true that at the time the above entitled law was enacted the Legislature contemplated the subsequent payment by the United States Government of all bonds issued under the provisions of said law. In fact, a portion of section one of said Act, which reads as follows: "A sum not exceeding six hundred thousand dollars is hereby appropriated and set aside as an additional War Fund, payable in ten years out of any moneys which may be appropriated by Congress to defray the expenses incurred by the State of California, and interest thereon at the rate of seven per cent per annum, in the suppression of Indian hostilities, or out of the proceeds of the sale of any public lands which may

be donated or set aside by Congress for that purpose," shows conclusively that such was the fact. But the same section goes on to say, "and should no such appropriation or donation be made, or if an amount sufficient should not be appropriated or donated within the said ten years, then the bonds authorized to be issued by this Act shall be good and valid claims against the State, and shall be paid out of any money in the Treasury not otherwise appropriated, to pay the expenses of the expeditions mentioned in this Act."

Then, notwithstanding the Legislature contemplated at the time the law was enacted that the Government of the United States would pay this bond, it expressly declared that in case the United States Government failed to do so within ten years thereafter, the bond should then be a good and valid claim against the State. The ten years expired on the second day of May, eighteen hundred and sixty-two, at which time the State of California promised to pay said bond. The same has not been paid, either in whole or in part, and your committee are of the opinion that the terms of the Act under which the bond was issued fully answers the first objection of the Board of Examiners.

The second objection urged by the said Board goes to the constitutionality of the law under which this bond was issued.

Article Eight of the Constitution of the State of California reads as follows: "The Legislature shall not in any manner create any debt or debts, liability or liabilities, which shall singly, or in the aggregate with any previous debts or liabilities, exceed the sum of three hundred thousand dollars, except in case of war, to repel invasion, or suppress insurrection," etc. It will be readily conceded that unless the law referred to comes within the exceptions mentioned in the Constitution it is invalid, and the bonds issued in pursuance thereof are not a legal claim against the State. In the title of the Act we find its declared object to be to "authorize the Treasurer of the State to issue bonds for the payment of the expenses" of certain expeditions (naming them) against the Indians in this State. The last clause of section one of said Act declares that "the bonds authorized to be issued by this Act shall be good and valid claims against the State, and shall be paid out of any money in the Treasury not otherwise appropriated, to pay the expenses of the expeditions mentioned in this Act."

Section second of the Act provides for having the liabilities and expenses incurred in the same expeditions against the Indians funded or paid in bonds bearing seven per cent interest per annum. Your committee are of the opinion that in these recitals in the law the Legislature fully recognized the fact that the hostile expeditions against the Indians, mentioned in said Act, had actually and necessarily taken place under the direction of our State authorities, and that this appropriation was necessary to meet the expenses incurred in such expeditions. Your committee are of the opinion, also, that under the Constitution the Legislature is the sole judge as to when the necessity has arisen for an appropriation or for creating an indebtedness against the State, under the exception mentioned in the Constitution. The only question which remains is, whether "expeditions against the Indians" within this State can be construed to mean the suppression of insurrections. The Indians that roam throughout our State, though mostly wild and uncivilized, are none the less inhabitants thereof, and notwithstanding our laws do not operate against them, still any "Indian hostilities" or outrages perpetrated by any body of savages against the lives or property of our citizens or the peace of the community, must, from the very nature of things, be regarded

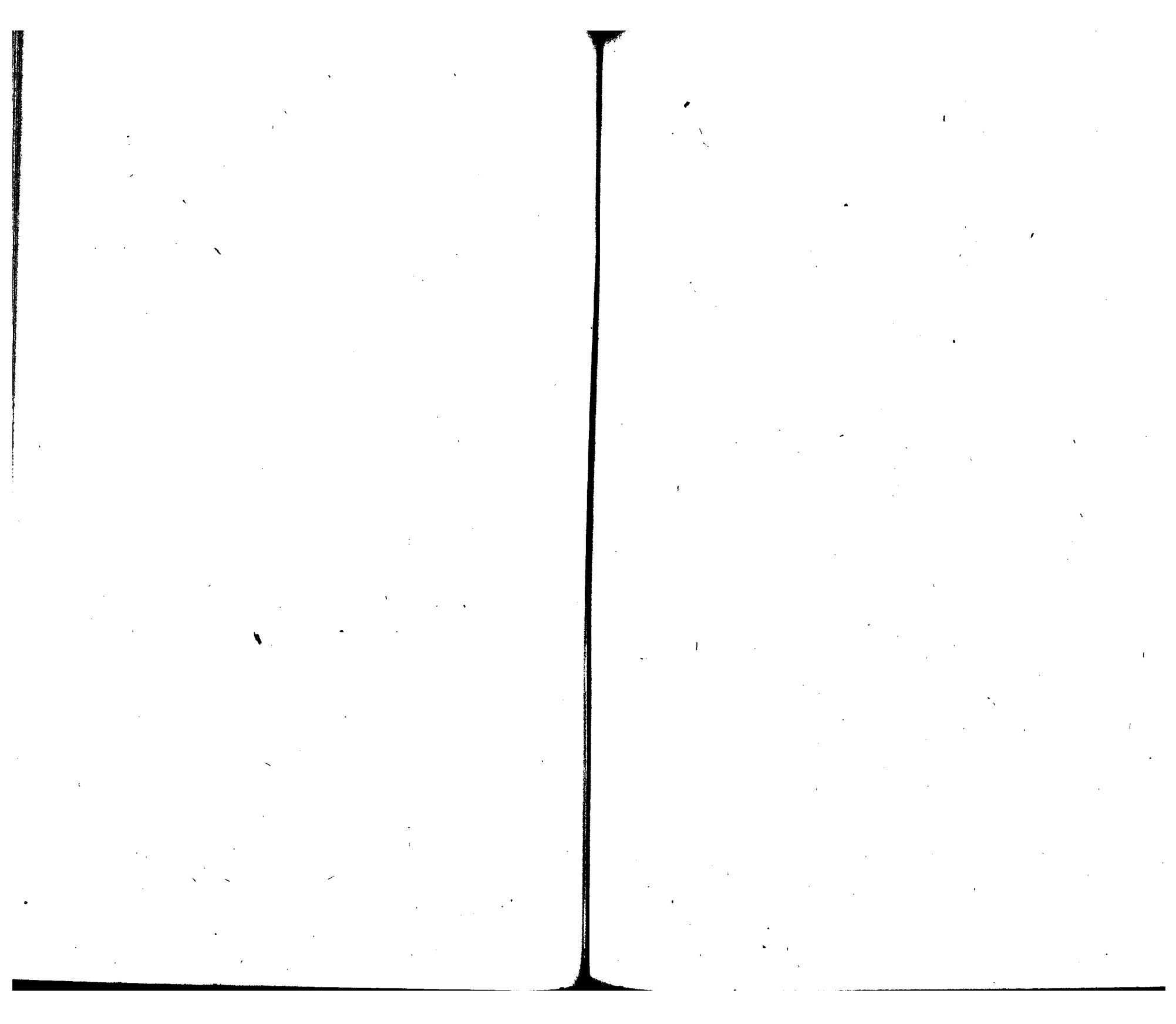
as insurrectionary, and a construction of our Constitution so narrow as not to allow appropriations to be made by law to fit out expeditions to suppress them, would not, in the opinion of your committee, comport with the letter and spirit of the fundamental law of our State.

Your committee are therefore of the opinion, after a careful examination of the whole law of the case, that the appropriation made by the Act referred to comes clearly within the exception in the Constitution, and is valid. That the bond in question is a good, valid, and legal claim against the State, and that the State is in law and equity bound to pay the same.

Your committee has not arrived at the foregoing conclusions with a view to the bond alone, but had in mind while considering the same the large outstanding indebtedness of the State occupying precisely the same position as this claim. This indebtedness has received the attention of previous Legislatures, and their actions in the premises your committee deem it necessary to review. It is sufficient to say, however, that by reference to pages seven and eight of the report of the Controller of State for the fifteenth and sixteenth fiscal years, it will be found that there are bonds outstanding (of which the one before us is a sample) amounting in the aggregate to the sum of thirty-eight thousand one hundred dollars, and interest thereon.

For the reasons heretofore given, your committee are clearly of the opinion that the honor of the State is pledged to the payment of these bonds, with interest, and that provision should be made for the payment of the same; and for that purpose your committee have prepared and herewith submit a bill to the Assembly, and recommend the passage of the same.

In conclusion, your committee would state that in recommending the payment of these bonds, they do not wish to be understood as favoring in the least the payment of the claim or any portion thereof, based upon coupons detached from the Indian war bonds heretofore surrendered to the United States Government, these coupons amounting to the sum of one hundred and seventy-two thousand eight hundred and sixty-eight dollars and fifty-four cents. Your committee desire to leave them where the objections of previous Legislatures have placed them.



REPORT

OF

Committee on Internal Improvements

(OF ASSEMBLY,) ON

ASSEMBLY BILL No. 321.

REPORT.

MR. SPEAKER :—Your Committee on Internal Improvements, to whom was referred Assembly bill Number Three Hundred and Twenty-One, entitled "An Act to develop the agricultural interests, and to aid in the construction of a canal for the purposes of irrigation and inland trade in the Counties of Colusa, Yolo, and Solano," have given the subject their most earnest attention, and beg leave to submit the following report :

The proposed Act authorizes R. J. Walsh, Jerome C. Davis, Andrew M. Stevenson, and their associates, to form a company for the construction of a canal from some point on the Sacramento River, near the county line of Colusa and Tehama Counties, to some point on the navigable waters of Cache Creek Slough, in the County of Solano, said incorporation to be known as the "Sacramento Irrigation and Navigation Canal Company." The objects to be attained by said canal shall be the irrigation of the lands in said counties, the transportation of agricultural products, and the security from inundation of the swamp lands in the Sacramento Valley.

With reference to the first of the results proposed to be obtained by this canal, the committee have carefully examined the report of E. Goodrich Smith, of Washington, D. C., who has given the subject much attention, and from whose report we desire to submit the following extracts :

"A system of irrigation is nowhere conducted on so grand a scale as in this part of the British Empire (India). Some of the canals are like mighty rivers, and a vast extent of country receives the benefit of their waters for agricultural purposes. The first canal dates back to the fourteenth century. The principal canals in India are those on the River Jumna West, of the Eastern Jumna, of the Sutlej, and of the Ganges. The whole length of the main lines of the Western Jumna Canal is four hundred and forty-five miles. The total area of the country traversed is three million seven hundred and eighty-four thousand three hundred and eighty-five acres. Of this, the irrigated portion is eight hundred and fifty-nine thousand nine hundred and two acres; in one district one half, in another one third, and in the great sterile tract of Hissar, one tenth is brought under the influence of the canals. These irrigated areas included all the villages using canal waters for different purposes,

but of the land actually watered there are only three hundred and fifty-seven thousand five hundred and one acres. The best watered district is the irrigated portion of Hissar, the chief towns of which, in eighteen hundred and seven, were literally without an inhabitant, and in which the canal has called forth an active and thriving peasantry. The entire cost, including repairs, was only £119,474. The amount of water rent from eighteen hundred and twenty was £351,753. The gross value in eighteen hundred and thirty-seven and eighteen hundred and thirty-eight, on irrigated lands—the greater part would otherwise have been wholly unproductive—as given for the crops of the rainy season, was £405,176; for the crops of the cold season, £957,000; in all, £1,461,276; so that nearly £1,500,000 was saved by the canal, of which one tenth, or £150,000, was paid to the Government as land rental; the remainder supported during a famine five hundred villages. The returns of eighteen hundred and thirty-seven and eighteen hundred and thirty-eight to the Government covered the whole cost of the canal and left a surplus of nearly £26,800, including other returns. The account stood thus: the total expenditure was £353,630 16s.; the revenue amounted to £420,607 2s.; leaving a surplus of £66,946 6s. The annual increase of the land revenue due to the canals of the Western Jumna is stated to be £29,436, and there has been added to the direct canal revenue £60,000 per annum, leaving a net income of £43,000, which on the capital invested gave thirty-six per cent. The excess of population is likewise very great on the irrigated above the unirrigated, being two fifths larger.

The Eastern Jumna has a system of distribution canals measuring five hundred miles. The annual increase of land revenue due to the canal is £14,965. Adding to this the direct revenue of the canal, it is £27,000. The expenditure was £31,460; current expenses, £8,000; net annual income, £19,500; yielding thus on the capital of £81,460 nearly twenty-four per cent.

"In summing up the benefits to be derived from the Grand Ganges Canal, eight hundred and ninety-eight and a half miles in length, the following are enumerated: It will add to the revenue £350,000 per annum; protect from the risk of famine upwards of eleven million acres, inhabited by six million five hundred thousand souls, paying to the State £1,800,000. In the event of the failure of rains, it will save agricultural property to the amount of £7,500,000, and add to the increase of produce £1,200,000 per annum."

We likewise find from the same authority that in Piedmont the whole irrigated region is one million five hundred acres, covered by a network of canals more than one thousand two hundred miles long. The entire length of the canals of Lombardy is four thousand five hundred miles, irrigating over two million acres. In the entire valleys of the Po, Piedmont, and Lombardy, there is an increased rental of £830,000 per year for an expenditure of £40,000,000; and the progressive increase in population for the irrigated districts is two hundred and seventy-eight one-thousandths per cent, while for the unirrigated districts it is only one hundred and seventy-four one-thousandths per cent. In the Motare and Vigano districts there was no regular culture. The population was scanty and poor, and their industry and internal commerce languishing. Now, as irrigated, it has become richly productive and one of the most densely populated regions in Europe.

From the parliamentary returns of England in eighteen hundred and fifty-four, the extent of land under the title of irrigated meadows amounted to one million two hundred and ninety-two thousand three hundred and twenty-nine acres; and several meadows, once arid and worthless, by flooding with water, have risen to an enormous value, and are stated to be annually let by public auction at prices varying from seventy-five to one hundred and sixty dollars per acre.

The amount of land which would be irrigated by the proposed canal would at the very lowest estimate amount to six hundred and forty thousand acres, and the increased value of the same would certainly amount to twelve dollars per acre, making a gross increase of seven million six hundred and eighty thousand dollars to the taxable property of the State, which at the present rate of taxation would yield an annual revenue to the State of eighty-eight thousand three hundred and twenty dollars. As to the second of the results to be obtained by this canal, viz: the transportation of agricultural products—it seems hardly necessary to call your attention to the fact that transportation can be had much cheaper by canal than by any other means now in use. The Erie Canal of New York State is an example which fully confirms that statement, running as it does in opposition to one of the best constructed and managed railroads in the United States. Its business has not been decreased since the construction of said road, but, on the contrary, has increased from year to year much beyond the most sanguine hopes of its originators, and adding more and more each year to the revenue of the Empire State.

The last of the objects to be gained, viz: the security from inundations of the swamp lands in the Sacramento Valley—must be palpable to any person who will give the subject a moment's attention. In time of high water it will form an extra channel for the relief of the overburdened river, and if it does not succeed in carrying off the surplus water, will certainly tend greatly to that result.

This Act merely provides that the State shall expend the sum of ten thousand dollars for a survey and maps of the proposed route. Your committee have amended the same by making the sum eight thousand dollars, for which we think competent engineers will undertake the same, and which is certainly as low as the work can be done. This sum is to be expended under the direction of the Governor, Attorney-General, and Surveyor-General, and is not to be paid until the approval of the maps and plans, thus securing a reliable and impartial survey of the proposed canal, and giving to the same an official character, which will guarantee to the settlers along the proposed route that their rights will not be encroached upon. We therefore recommend that the bill as amended may pass.

KIDDER, Chairman.

ACT OF CONGRESS

GRANTING TO CALIFORNIA

The Yosemite Valley and Big Tree Grove,

MARIPOSA COUNTY.

A BILL

AUTHORIZING A

Grant to the State of California of the Yosemite Valley,

AND OF THE LAND EMBRACING

THE MARIPOSA BIG TREE GROVE.

O. M. CLAYES.....STATE PRINTER.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That there shall be, and is hereby, granted to the State of California the "cleft" or "gorge" in the granite peak of the Sierra Nevada Mountains, situated in the County of Mariposa, in the State aforesaid, and the headwaters of the Merced River, and known as the Yosemite Valley, with its branches or spurs, in estimated length fifteen miles, and in average width one mile back from the main edge of the precipice, on each side of the valley, with the stipulation, nevertheless, that the State shall accept this grant upon the express conditions that the premises shall be held for public use, resort, and recreation; shall be inalienable for all time; but leases not exceeding ten years may be granted for portions of said premises. All incomes derived from leases of privileges to be expended in the preservation and improvement of the property, or the roads leading thereto; the boundaries to be established at the cost of said State by the United States Surveyor-General of California, whose official plat, when affirmed by the Commissioner of the General Land Office, shall constitute the evidence of the locus, extent, and limits of the said cleft or gorge; and the premises to be managed by the Governor of the State with eight other Commissioners, to be appointed by the executive of California, and who shall receive no compensation for their services.

SEC. 2. *And be it further enacted, That there shall likewise be, and there is hereby, granted to the said State of California the tracts embracing what is known as the "Mariposa Big Tree Grove," not to exceed the area of four sections, and to be taken in legal subdivisions of one*

quarter section each, with the like stipulation as expressed in the first section of this Act as to the State's acceptance, with like conditions as in the first section of this Act as to inalienability, yet, with same lease privilege—the income to be expended in preservation, improvement, and protection of the property; the premises to be managed by Commissioners as stipulated in the first section, and to be taken in legal subdivisions as aforesaid; and the official plat of the United States Surveyor-General, when affirmed by the Commissioner of the General Land Office, to be the evidence of the locus of the said Mariposa Big Tree Grove.

CORRESPONDENCE

BETWEEN

GOVERNOR FRED'K F. LOW

AND

BRIGADIER-GENERAL JAS. H. CARLETON.

CORRESPONDENCE.

STATE OF CALIFORNIA, EXECUTIVE DEPARTMENT, }
Sacramento, May 22d, 1865. }

GENERAL:—Many of the volunteers which composed the First and Fifth Infantry, California Volunteers, whose terms of service expired last autumn, and were discharged in New Mexico, have returned here. They and their friends complain loudly because they were not returned to this State before being discharged; and some of them charge me with dereliction of duty in not seeing to it and procuring the necessary orders for their return.

As you are fully aware, I knew nothing of the matter, and that the orders and communications between the War Department and yourself never were laid before me. I understand, unofficially, that it was left to a vote of the soldiers where they would be discharged, and they, by their own free will, chose the Rio Grande as the place. I would be glad if you would cause copies of all orders and communications touching this matter to be forwarded to me with as little delay as possible.

I remain, General, your obedient servant,

F. F. LOW, Governor.

General J. A. CARLETON, Santa Fe.

HEADQUARTERS DEPARTMENT OF NEW MEXICO, }
Santa Fe, New Mexico, July 18th, 1865. }

To His Excellency, FREDERICK F. LOW,
Governor of California, Sacramento, California:

GOVERNOR:—I have had the honor to receive your communication dated at Sacramento, California, May twenty-second, eighteen hundred and sixty-five, in relation to complaints made by many of the volunteers who composed the First and Fifth Infantry, California Volunteers, and

by the friends of those volunteers. The complaints seem to have been that they were discharged in New Mexico, when they claim that they should have been returned to California before they were discharged.

By the inclosed correspondence your excellency will see the reasons given by myself to the War Department, why I thought it was more considerate to the volunteers alluded to, and better suited to the wishes of many of them that they should be discharged here than to be marched in a body to California to be discharged there. Up to the time of the discharge of these men, it was believed by myself, from conversation with individuals of those organizations, as well as from the inclosed correspondence, that but few, if any of the men, even though they returned to California, would wish to recross the inhospitable deserts over which they had toiled and suffered so gallantly and uncomplainingly in the fulfillment of the requirements of their country. But after their discharge, and when I was personally some three hundred miles away, when many of those first discharged started for home, it was a matter of some surprise, disappointment, and regret, that I learned that many of the men had determined to return home by the route over which they had come to New Mexico. I was surprised at the choice of route, and disappointed and sorry that the Government had been unable to secure the services of such well disciplined and splendid troops to the end of the war. When they had been under my immediate command, and had had my care and solicitude for quite three years; when they had been the subjects of a just pride on my part for their high soldierly qualities, your excellency can judge of the pain and mortification which I had to endure in finding that I had become the subject not only of their censure and that of their friends, but the object in some few instances, I am sorry to say, of their unjust, because unmerited abuse.

They were not all paid their just allowance of mileage, from an error made by the Paymaster who paid them. This matter the Paymaster himself explains in a letter, a copy of which is inclosed.

And then again, the commanding officer at Las Cruces saw fit not to let them have rations after their discharge, and while they were obliged to wait for pay, unless they paid for those rations. All this was unjust and hard; but, as I before said, I myself was three hundred miles from the spot, and knew nothing of the matter until it was too late, from the departure of many of the men, to remedy the evil. The commanding officer, I have heard, took the ground that he could not, under orders, issue rations to citizens; as if such citizens had not a claim upon the Government to be fed, while the Government itself compelled them to wait for their just dues. The evil, as I have said, was not known to me until it was too late to remedy it, and I myself was charged with having given orders to treat the volunteers as they were treated. This matter caused me to feel more indignation, and more painful regrets, than I can express.

With reference to issuing subsistence for these men to consume en route to California when once they were discharged, could not be done under the regulations, because they had received in cash commutation for their rations, and for their mileage back to the place of their original enrolment. Besides, even though they wished to buy rations at Fort Bowie, and at Tucson or Tubec, on their route home, the rations were not at those points to meet such unexpected demands in the midst of a desert, without injustice, and perhaps danger, to the garrisons of those isolated places, situated at very long distances from the source of supply. I hope I need not state that my natural desire must have been to have

done all I could to further the interest and the comfort and happiness of the brave men with whom I had been closely associated under so many trying emergencies, on our long and toilsome march, and who had performed such gallant services under my command in this department. But it was my fortune to be misunderstood and misrepresented in the matter. Personally, each of those brave fellows should have shared my last crust; and many of them knew—and all ought to have known—that they were alike the objects of my pride, my solicitude, and of my professional as well as of my personal regards. Few commanders have had such splendid troops as those given to me from the State of California; and, however much I may be censured in this matter, that fact shall always find me a prompt and cordial witness to its truth.

I need hardly say, in conclusion, that of all this matter your excellency had not the slightest knowledge, and therefore must be held entirely blameless.

I have the honor to be,

Your excellency's obedient servant,

(Signed:)

JAMES A. CARLETON,
Brigadier-General.

HEADQUARTERS DEPARTMENT OF NEW MEXICO,
Santa Fe, New Mexico, November 29th, 1863. }

Brigadier-General LORENZO THOMAS,
Adjutant-General, U. S. A., Washington, D. C.:

GENERAL:—Until Mr. Broadhead's decision was made, that volunteers who should be discharged by enlistment in veteran volunteers should not receive their mileage from the place of such discharge to the place of original enrolment, I entertained hopes that many, if not most, of the First and Fifth Regiments of Infantry, of the First Cavalry, California Volunteers, and First Cavalry, New Mexico Volunteers, would re-enlist in the Veteran Volunteers. But since that decision was made, it is very doubtful if the California Volunteers will re-enlist. Their present term of service will expire next August and September. Before that time other troops will have to be sent here to take their places, unless these can be induced to re-enlist. The troops in this department should be made an exception to the general rule. In my opinion an order should be made giving all volunteers who re-enlist in this department the one hundred dollars due on first enlistment, and an increased bounty on the second, over and above the bounty paid to soldiers in the east, which would be equal to the cost of getting soldiers from the east to New Mexico. The Government in this way would lose nothing, but would rather gain; because these well disciplined men would then remain, doubtless, and they have now become familiar with the country, and can do better service, for that reason, than any newcomers. These men should receive their mileage on their first enlistment. In my opinion the law clearly allows it to soldiers honorably discharged. If the Government do not deny their travelling allowances, and will give the bounty named, I believe the most of these regiments can be got to remain. If the Government will not do this, I beg to give timely notice of the necessities

which will exist to have troops sent to take their places, in time to be in position before the term of service of these men expire.

The California troops do not wish to be sent as regiments back to California; they would rather be discharged here in case they do not re-enlist. Some desire to go to the States, some to the gold fields of Arizona, some to settle in New Mexico, and some to go to California by whatever route they please. The true economy of the question would be promoted by making the bounties so liberal as to induce them to re-enter the service for three years, or during the war.

I am, General, very truly and respectfully,

Your obedient servant,

(Signed :)

JAMES H. CARLETON,
Brigadier-General Commanding.

DEPARTMENT NEW MEXICO,
Santa Fe, New Mexico, July 12th, 1865. }

Official.

(Signed :)

BEN. C. CUTLER,
Assistant Adjutant-General.

HEADQUARTERS DEPARTMENT OF NEW MEXICO,
Santa Fe, New Mexico, May 2d, 1864. }

Brigadier-General LORENZO THOMAS,
Adjutant-General U. S. A., Washington, D. C.:

GENERAL:—In February last the Chief Paymaster in this department sent an estimate of funds to Washington calling for one million six hundred and forty-one thousand six hundred and three dollars and thirty-seven cents, with which to pay troops from the first instant to the first of next January, eighteen hundred and sixty-five. This covers all the time when the California troops and the First Cavalry, New Mexican Volunteers, are to be discharged. We have a report here that a Paymaster is coming to relieve the present Chief Paymaster, Major John A. Whitall, and that, of the funds thus estimated for, he is only bringing four hundred and fifty thousand dollars. It is my duty to call the attention of the War Department to the short time that will elapse before these California troops will be discharged, and of the great embarrassments which will result from want of money to pay them so that they can go home. Should an officer be sent with these funds immediately on the receipt of this letter, he would not arrive here before the money would be needed, for some of the California troops are six hundred miles from Santa Fe, in places (Tucson and Fort Whipple) which it will take quite a month to reach. Besides, unless the men are paid, such of them

as might desire to re-enlist will hardly do so. The necessity for prompt action in the case is self-evident.

I am, General, very respectfully,

Your obedient servant,

(Signed :)

JAMES H. CARLETON,
Brigadier-General Commanding.

DEPARTMENT OF NEW MEXICO,
Santa Fe, New Mexico, July 12th, 1865. }

Official.

(Signed :)

BEN. C. CUTLER,
Assistant Adjutant-General.

HEADQUARTERS DEPARTMENT OF NEW MEXICO,
Santa Fe, New Mexico, May 10th, 1864. }

To Major-General HENRY W. HALLECK, U. S. A.,
Chief of Staff, Washington, D. C.

GENERAL:—I have great anxiety that sufficient funds should be sent to this department with which to pay the two regiments and a half of California Volunteers who will be discharged the service in August, September, and October next—most all in August.

It would be a poor return for three years of hard and faithful service to discharge these men at isolated posts in the interior of the continent, with evidences of indebtedness in the shape of final statements. Even though the funds are started immediately on the receipt of this letter, they will barely reach here in time to be sent to the distant posts.

I am, General, very respectfully,

Your obedient servant,

(Signed :)

JAMES H. CARLETON,
Brigadier-General Commanding.

DEPARTMENT OF NEW MEXICO,
Santa Fe, New Mexico, July 13th, 1865. }

Official.

(Signed :)

BEN. C. CUTLER,
Assistant Adjutant-General.

MAY 11th, 1864.

A communication was received at Headquarters Department of New Mexico, from James B. McCaffrey, and other members of Company F, First Infantry California Volunteers, dated Fort Whipple, Arizona Territory, April eleventh, eighteen hundred and sixty-four, asking that they be discharged the service in the Department of New Mexico.

This was returned May twelfth, eighteen hundred and sixty-four, with the following indorsement:

"Respectfully returned. These men will doubtless be discharged in Arizona. I have recommended that all California volunteers be discharged in this country, and think it will be done."

(Signed:)

May 12th, 1864.

[939]

JAMES H. CARLETON,
Brigadier General Commanding.

Official.

DEPARTMENT OF NEW MEXICO,
Santa Fe, New Mexico, July 12th, 1865. }

BEN. C. CUTLER,
Assistant Adjutant-General.

MAY 18th, 1864.

A communication was received at Headquarters Department of New Mexico, from Thomas Glancy, musician, Company B, First Infantry, California Volunteers, Fort Cummings, New Mexico, May sixth, eighteen hundred and sixty-four, applying to be discharged at the expiration of his term of service in the Territory of New Mexico.

This was returned, May twenty-seventh, eighteen hundred and sixty-four, with the following indorsement: "Yes."

(Signed:)

May 27th, 1864.

By order,

[972]

ERASTUS W. WOOD,
Aide-de-Camp.

Official.

DEPARTMENT OF NEW MEXICO,
Santa Fe, New Mexico, July 12th, 1865. }

BEN. C. CUTLER,
Assistant Adjutant-General.

MAY 18th, 1864.

A communication was received from Sergeant William Johnson, Company B, First Infantry, California Volunteers, dated Fort Cummings, New Mexico, May sixth, eighteen hundred and sixty-four, praying to be discharged in New Mexico on the expiration of his term of service.

This was returned May twenty-seventh, eighteen hundred and sixty-four, with the following indorsement:

"Respectfully returned. The Sergeant will doubtless be discharged in this country."

By order,

(Signed:)

May 27th, 1864.

[973]

ERASTUS W. WOOD,
Aide-de-Camp.

DEPARTMENT OF NEW MEXICO,
Santa Fe, New Mexico, July 12th, 1865. }

Official.

(Signed:)

BEN. C. CUTLER,
Assistant Adjutant-General.

Indorsement on communication from W. R. Shoemaker, M. S. K., Fort Union Depot, May twenty-seventh, eighteen hundred and sixty-four—"478-S-122-1864," recommending that the men of the First Infantry, California Volunteers, be allowed, upon their discharge, to purchase the arms they now have.

I respectfully forward this communication to the Adjutant-General of the Army for the consideration and orders of the War Department. A great many of the rank and file of the First Cavalry, and the First and Fifth Regiments of Infantry, California Volunteers, must necessarily be discharged in the field in Arizona, where they are now fighting Apache Indians, and where the men wish to locate upon rich gold and silver claims which they have discovered. By allowing these men to retain the arms and equipments now in their hands, and which they have carried for three years, and to which they have become attached, *at cost price*, the Government would be made whole and the men left with arms with which to defend themselves. An early decision is requested.

(Signed:)

May 31st, 1864.

JAMES H. CARLETON,
Brigadier-General Commanding.

Official.

DEPARTMENT OF NEW MEXICO,
Santa Fe, New Mexico, July 13th, 1865. }

BEN. C. CUTLER,
Assistant Adjutant-General.

HEADQUARTERS DEPARTMENT OF NEW MEXICO,
Santa Fe, New Mexico, May 31st, 1864. }

Brigadier General LORENZO THOMAS,
Adjutant-General, Washington, D. C.:

GENERAL:—I have just received Circular Number Thirty-six, dated May second, eighteen hundred and sixty-four, from your office. There are some injunctions in that circular which cannot well be carried into practical effect in this department. The California troops who are to be discharged within this department this year desire to remain in New Mexico and Arizona, and it is of great advantage to the Territories of New Mexico and Arizona that they be permitted to do so. A great and inhospitable desert separates them from California, over which they have once marched under many privations and much suffering. To compel these men to return over the same desert against their wishes merely to be discharged in California, would be very hard, and under the circumstances of their desire to remain, not advisable. Besides, we are embarrassed for the want of the necessary transportation for such movements. I therefore beg they may be ordered to be discharged here, and that funds be sent at once with which to pay them their dues. Political reasons connected with the filling up of these rich mineral lands by a hardy population of experienced miners, and by trained soldiers, who at any time can be called upon to defend the country, whether against savages within or rebels without its borders, should and doubtless will have great weight with the Government. Such timely forecast will give an impetus to Arizona and New Mexico which will be felt not only by these Territories, but by the United States at large. For it is to such men the country must look for the speedy development of the precious metals now so greatly needed. Please send a supply—say three thousand—of discharges, and a sufficiency of muster-out rolls for that number of men—say for three regiments and a half, of eight hundred men to a regiment. Some of the companies, under the rule established by your circular, will be mustered out in July; so that funds should be sent without delay to meet these demands.

This last important matter has been the subject of two communications already sent to Washington—one to yourself, on the twentieth instant, and one on the tenth instant to General Halleck. I beg again to urge upon your serious attention the defenceless condition in which this department will be when these troops have been discharged.

This subject has also been urged upon your attention in letters dated November twenty-ninth, eighteen hundred and sixty-three, (duplicated January twelfth, eighteen hundred and sixty-four,) and May eighth, eighteen hundred and sixty-four.

I am, General, very respectfully,

Your obedient servant,

(Signed:)

JAMES H. CARLETON,
Brigadier-General Commanding.

DEPARTMENT OF NEW MEXICO,
Santa Fe, New Mexico, July 12th, 1865. }

Official.

BEN. C. CUTLER,
Assistant Adjutant-General.

HEADQUARTERS DEPARTMENT OF NEW MEXICO,
Santa Fe, New Mexico, June 24th, 1864. }

Major EDWARD B. WILLIS,
Commanding at Fort Whipple, Arizona:

MAJOR:—As soon as Captain Pishon arrives with cattle for which he was sent to California, have him forward his accounts, finally balanced, through the Chief Commissary at these headquarters, for the Commissary-General. The Captain wishes to resign, but cannot do so under the rules until he has adjusted his accounts. Captain Allen L. Anderson, United States Army, with Lieutenant-Colonel Chaves, and a company of the United States Fifth Infantry, and twenty cavalry, is now about starting from Los Pinos, with a train of supplies and seventy-five head of beef cattle, for Fort Whipple, Arizona. Colonel Chaves goes to show Captain Anderson the new cut-off, and to make such suggestions with regard to improving the road as may be deemed expedient. The train of wagons, after a few days rest, is to return intact to Los Pinos. Lieutenant-Colonel Chaves has been instructed to return with it. In case any men of your command desire to come in to the Rio Grande to be discharged, you will send them—properly armed, and provided with descriptive lists and clothing accounts, so that there may be no difficulty in adjusting their final accounts—under a competent officer, with the train. If the number of such men is equal to forty, you need to send no further escort to the train. If the number fall below forty, you will detail an escort sufficient to make that number, counting the men alluded to, and send it to the river. The men of this escort will be selected from the cavalry, and be provided with their descriptive lists and clothing accounts. By this arrangement, the train will have an escort of fifty men, including the ten with Colonel Chaves. These men will be subsisted only to Fort Wingate. If any one or all the companies heretofore serving at Fort Whipple desire to be discharged on the Rio Grande, you will march the command in, having the train for transportation, and draw subsistence to Fort Wingate. In this event, the company records will be brought in; the post records will be turned over to Captain Anderson. Should some few of the men in this case desire to stay back, they will be furnished with proper descriptive rolls and accounts, so that Captain Anderson can discharge them at Fort Whipple when their time is out.

I am, Major, very respectfully,

Your obedient servant,

(Signed:)

JAMES H. CARLETON,
Brigadier-General Commanding.

NOTE.—Inform me by express what you do in the matter.

DEPARTMENT OF NEW MEXICO,
Santa Fe, New Mexico, July 12th, 1865. }

Official.

BEN. C. CUTLER,
Assistant Adjutant-General.

ADJUTANT-GENERAL'S OFFICE,
Washington, July 9th, 1864. }

Brigadier-General JAMES H. CARLETON, U. S. A.,
Commanding Department of New Mexico.

GENERAL:—I have the honor to acknowledge the receipt of your communication of the thirty-first of May, eighteen hundred and sixty-four, requesting authority to muster the California troops in the department you command (whose terms of service expire and who are entitled to their discharge the present year) out of the military service of the United States at the place where they may be serving.

I have the honor also to inform you that the object to be attained thereby meets with the approval of the department, and the authority desired to muster out the troops referred to, in the Department of New Mexico, is, by direction of the Secretary of War, hereby given you.

I am, General, very respectfully,

Your obedient servant,

(Signed :)

SAMUEL BRECK,
Assistant Adjutant-General.

DEPARTMENT OF NEW MEXICO,
Santa Fe, New Mexico, July 12th, 1865. }

Official.

BEN. C. CUTLER,
Assistant Adjutant-General.

JULY 14th, 1864.

A communication was received from Otto Koernich, and others, enlisted men of Company H, First Infantry, California Volunteers, dated Fort Goodwin, Arizona Territory, July twentieth, eighteen hundred and sixty-four, asking to be discharged from the service in New Mexico, gives reasons therefor, etc., etc. This was returned July fourteenth, eighteen hundred and sixty-four, with the following indorsement:

"Respectfully returned. It is believed that the whole California column will be discharged in this department."

By order.

(Signed :)

ERASTUS W. WOOD,
Aide de Camp.

July 14th, 1864.

[1,575.]

DEPARTMENT OF NEW MEXICO,
Santa Fe, New Mexico, July 12th, 1865. }

Official.

(Signed :)

B. C. CUTLER,
Assistant Adjutant-General.

ORDNANCE OFFICE, WAR DEPARTMENT, }
Washington, July 15th, 1864.

Brigadier-General J. H. CARLETON,
Commanding Department of New Mexico, Santa Fe:

SIR:—Military Storekeeper Shoemaker's letter of May twenty-seventh, which you forwarded to the Adjutant-General on the twenty-seventh of same month, in which it was recommended that the men of the First Cavalry, and First and Fifth Infantry, California Volunteers, about to be mustered out of service in Arizona and New Mexico, be allowed to retain their arms and accoutrements, upon the value of the same being charged to them on the muster rolls, was referred to this office, and submitted to the Secretary for favorable consideration, and has met his approval.

You are therefore authorised to instruct the proper mustering officers, that on mustering out the regiments above named, they will allow such of the men as may desire it, to retain their arms, equipments, and accoutrements, and a reasonable quantity of suitable ammunition, the value of which is to be charged to them on the muster rolls, and deducted from their pay.

Respectfully, your obedient servant,

(Signed :)

GEORGE D. RAMSEY,
Brigadier-General, Chief Ordnance.

DEPARTMENT OF NEW MEXICO,
Santa Fe, New Mexico, July 13th, 1865. }

Official.

(Signed :)

B. C. CUTLER,
Assistant Adjutant-General.

[Extract.]

HEADQUARTERS, FORT WHIPPLE, ARIZONA, }
July 28th, 1864.

Captain B. C. CUTLER,
Assistant Adjutant-General, Santa Fe, New Mexico:

CAPTAIN:—I have the honor to inform you that about two thirds of the men of this command, whose time is about to expire, desire to be discharged in New Mexico; therefore, in accordance with the instructions contained in the letter of the General commanding, of the twenty-fourth ultimo, I will return with those men to Los Pinos upon the arrival of Captain Anderson. I think about one hundred and forty or fifty of the men will desire to return.

* * * * *

I am, Sir, very respectfully,

Your obedient servant,

(Signed :)

EDWARD B. WILLIS,
Major First Infantry, California Volunteers.

DEPARTMENT NEW MEXICO,
Santa Fe, New Mexico, July 12th, 1865. }

Official.

(Signed:)

B. C. CUTLER,
Assistant-Adjutant General.

AUGUST 10th, 1864.

Received a communication from Colonel Edwin A. Rigg, First Infantry California Volunteers, Fort Goodwin, Arizona Territory, July twenty-seventh, eighteen hundred and sixty-four, forwarding letters from enlisted men of Company H, First Infantry, California Volunteers, in relation to their discharge from service at the expiration of their time of enlistment. This was returned August twelfth, eighteen hundred and sixty-four, with the following indorsement:

"Respectfully returned to Colonel Rigg. In compliance with orders from the War Department, the California volunteers will be discharged in New Mexico and Arizona. This company is ordered to be mustered out of service at Las Cruces, New Mexico, on the thirty-first of this month. The War Department decided that when there were two months difference in the date of muster in of the several companies of a regiment, all should be mustered on the date of the last company. By this rule it is decided that when a single company goes out it shall go out on the last day of the month, three years from the time in which it was mustered in. Company H is ordered to be mustered out at Las Cruces, New Mexico, on the thirty-first instant."

By order.

(Signed:)

[No. 1,861.]

BEN. C. CUTLER,
Assistant Adjutant-General.

August 12th, 1864.

DEPARTMENT OF NEW MEXICO,
Santa Fe, New Mexico, July 12th, 1865. }

Official.

(Signed:)

BEN. C. CUTLER,
Assistant Adjutant-General.

DEPARTMENT OF NEW MEXICO, ASSISTANT ADJUTANT-GENERAL'S OFFICE, }
Santa Fe, New Mexico, July 17th, 1865.

To Major S. C. STAPLES,

Additional Paymaster, U. S. A., Santa Fe, N. M.:

MAJOR:—The California Volunteers who were mustered out of service last fall at Las Cruces, New Mexico, have in many instances made serious complaints in regard to the amount of commutation paid to them as travelling expenses, mileage, etc., from the place of muster out to their different places of residence. These complaints have not only been made direct to these headquarters, but in many cases the friends of the soldiers have represented to the War Department that injustice had been done to them. As you paid off most of the discharged men in the First and

Fifth Infantry, California Volunteers, the General commanding directs me to ask you if you cannot, in answer to this letter, make a statement in regard to the matters referred to above which will place this question in a proper light, and serve as a reply to any future complaints which may be made by those who think that they have not received what they were justly entitled to get. If practicable, the General would like to receive your answer to-day.

Respectfully, etc.,

(Signed:)

BEN. C. CUTLER,
Assistant Adjutant-General.

PAYMASTER'S OFFICE,
Santa Fe, New Mexico, July 17th, 1865. }

Major BEN. C. CUTLER,

Assistant Adjutant-General, Dep't New Mexico:

MAJOR:—I have the honor to acknowledge receipt of your letter of this date in reference to travelling expenses, etc., due certain California volunteers mustered out of service last fall at Las Cruces, New Mexico.

In reply, I have to state that having then but recently arrived in this department, and there being no other list of distances than those laid down in G. O. No. 25, 1864, Department New Mexico, I assumed it as being the nearest mail route from Las Cruces, New Mexico, to San Francisco, California. After the payment had been made, I was informed by Major R. A. Kinzie, Chief Paymaster Department New Mexico, that the distance assumed by me was incorrect. As many of the soldiers composing Companies A, C, and E, First California Cavalry, and Companies D and H, First California Volunteers, had not left Las Cruces, I at once made the correction, and asked the soldiers the favor to inform others in their respective companies to sign blanks (number five, of the Pay Department) in duplicate, state their company and regiment, and I would be happy to pay them the difference between Las Cruces and San Francisco via Tucson, and Las Cruces and San Francisco via Denver City, Colorado Territory.

The trouble I then assumed, and do now, in righting my error of distances, will be sufficient evidence of the sincerity of my payment. More than one half of the men have been paid the difference, and I will cordially make the payment to any of the remainder, provided they comply with the above requirement, viz: send me blanks signed in duplicate, to Santa Fe, New Mexico.

I am, Major, very respectfully,

Your obedient servant,

(Signed:)

S. C. STAPLES,
Paymaster, U. S. A.

JULY 18th, 1865.

Official.

(Signed:)

BEN. C. CUTLER,
Assistant Adjutant General.

REPORT OF THE TRUSTEES

OF

The Home for the Care of the Inebriate,

SAN FRANCISCO.

REPORT.

SAN FRANCISCO,
January 1st, 1866. }

*To the Legislature of the State of California in Senate and Assembly assembled,
Sixteenth Session:*

The undersigned, Board of Trustees of the Home for the Care of Inebriates, submit the following report, commencing January first, eighteen hundred and sixty-four, and ending December thirtieth, eighteen hundred and sixty-five:

Mr. PRESIDENT:—The undersigned Board of Trustees have held office as Trustees only during the past year of eighteen hundred and sixty-five, and are in nowise responsible for the management of the affairs of the Home for the year eighteen hundred and sixty-four. On assuming our duties at the commencement of the year we found the institution in debt to the amount of about fourteen hundred dollars. This debt has been entirely paid up under our management, and no debts now exist against it. We receive two hundred and fifty dollars per month from fines from the Police Court of the City and County of San Francisco, which, with occasional donations received, just about sustain the establishment. The institution has proved of great service to those who have been intrusted to its care, and is destined to become a permanent means of alleviating much misery. The following is a statement of its affairs for the year eighteen hundred and sixty-five:

RECEIPTS.

From what source received.	Amount.
Amount received from the City Treasurer from February 1st to December 30th, 1865.....	\$2,750 00
Amount received from benefit given at the Mechanics' Institute Fair.....	418 15
Amount received from First Unitarian Church, from collection taken by Rev. Horatio Stebbins.....	122 50
By donations of sundries from citizens.....	485 50
Total.....	\$3,776 15

O. M. CLAYES.....STATE PRINTER.

EXPENDITURES.

On what account paid.	Amount.
Amount paid for supplies, help, and medical attendance.	\$2,249 08
Amount paid on old debt.....	1,322 62
Balance cash on hand.....	204 50
Total.....	\$3,776 15

Patients admitted during the year.....	156
Patients discharged.....	147
Patients died.....	4
Patients remaining.....	5
	156

All of which is respectfully submitted.

HORATIO STEBBINS,
President.
R. A. REDMAN,
Secretary of Board of Trustees.
ALEX. STOTT,
Treasurer.

MAJORITY AND MINORITY REPORTS

OF THE

ASSEMBLY JUDICIARY COMMITTEE

IN RELATION TO THE

APPEAL OF F. J. THIBAUT

FROM THE DECISION OF

THE STATE BOARD OF EXAMINERS.

MAJORITY REPORT.

MR. SPEAKER:—Your Judiciary Committee, to whom was referred the appeal of F. J. Thibault, from the decision of the State Board of Examiners, disallowing his claim for the sum of one hundred and fifty-four dollars and five cents, upon what is known as a "State Indian War Bond," have had the same under consideration, and beg leave to report as follows: The said bond was issued on the eleventh day of August, one thousand eight hundred and fifty-four, under the provisions of an Act of the Legislature of this State, entitled "An Act authorizing the Treasurer of the State to issue bonds for the payment of the expenses of the Mariposa, Second El Dorado, Utah, Los Angeles, Clear Lake, Klamath and Trinity, and Monterey expeditions against the Indians," approved May third, one thousand eight hundred and fifty-two. The Board of Examiners refused to allow the said claim for two reasons:

"1st. That it was never contemplated by the Act under which the bond is issued that said bond should be paid by the State; but it *was* contemplated that the same should be paid by the United States Government." And "2nd. That at the time said bond matured, the indebtedness of the State exceeded the limit prescribed by the Eighth Article of the Constitution, and the debt is contracted under said Act, although there is no provision therein to submit the same to a vote of the people; nor does the same purport to have been passed in a case of war to suppress insurrection or repel invasion."

It is doubtless true, that at the time the above entitled law was enacted, the Legislature contemplated the subsequent payment, by the United States Government, of all bonds issued under the provisions of said law. In fact, a portion of section one of said Act, which reads as follows: "A sum not exceeding six hundred thousand dollars is hereby appropriated and set aside as an additional War Fund, payable in ten years, out of any moneys which may be appropriated by Congress to defray the expenses incurred by the State of California, and interest thereon at the rate of seven per cent per annum, in the suppression of Indian hostilities, or out of the proceeds of the sale of any public lands which may be donated or set aside by Congress for that purpose," shows conclusively that such was the fact. But the same section goes on to say: "And should no such appropriation or donation be made, or if an amount sufficient should not be appropriated or donated within the said

ten years, then the bonds authorized to be issued by this Act shall be good and valid claims against the State, and shall be paid out of any money in the Treasury, not otherwise appropriated, to pay the expenses of the expeditions mentioned in this Act."

Then, notwithstanding the Legislature contemplated at the time the law was enacted that the Government of the United States would pay this bond, it expressly declared that in case the United States Government failed to do so within ten years thereafter the bond should then be a good and valid claim against the State. The ten years expired on the second day of May, one thousand eight hundred and sixty-two, at which time the State of California promised to pay said bond. The same has not been paid, either in whole or in part, and your committee are of the opinion that the terms of the Act under which the bond was issued fully answers the first objection of the Board of Examiners.

The second objection urged by the said Board goes to the constitutionality of the law under which this bond was issued.

Article Eight of the Constitution of the State of California reads as follows:

"The Legislature shall not, in any manner, create any debt or debts, liability or liabilities, which shall singly or in the aggregate, with any previous debts or liabilities, exceed the sum of three hundred thousand dollars, except in case of war, to repel invasion, or suppress insurrection," etc.

It will be readily conceded, that unless the law referred to comes within the exception mentioned in the Constitution, it is invalid, and the bonds issued in pursuance thereof are not a legal claim against the State. In the title of the Act we find its declared object to be to "authorise the Treasurer of the State to issue bonds for the payment of the expenses" of certain expeditions (naming them) against the Indians in this State. The last clause of section one of said Act declares that "the bonds authorized to be issued by this Act shall be good and valid claims against the State, and shall be paid out of any money in the Treasury, not otherwise appropriated, to pay the expenses of the expeditions mentioned in this Act."

Section second of the Act provides for having the liabilities and expenses incurred in the same expeditions against the Indians funded, or paid in bonds bearing seven per cent interest per annum. Your committee are of the opinion that in these recitals in the law, the Legislature fully recognized the fact that the hostile expeditions against the Indians mentioned in said Act had actually and necessarily taken place under the direction of our State authorities, and that this appropriation was necessary to meet the expenses incurred in such expeditions. Your committee are of the opinion, also, that under the Constitution the Legislature is the sole judge as to when the necessity has arisen for an appropriation, or for creating an indebtedness against the State under the exception mentioned in the Constitution. The only question which remains is, whether "expeditions against the Indians" within this State can be construed to mean the suppression of insurrections? The Indians that roam throughout our State, though mostly wild and uncivilized, are none the less inhabitants thereof, and, notwithstanding our laws do not operate against them, still any "Indian hostilities," or outrages perpetrated by any body of savages against the lives or property of our citizens, or the peace of the community, must from the very nature of

things, be regarded as insurrectionary, and a construction of our Constitution so narrow as not to allow appropriations to be made by law, to fit out expeditions to suppress them, would not, in the opinion of your committee, comport with the letter and spirit of the fundamental law of our State.

Your committee are therefore of the opinion, after a careful examination of the whole law of the case, that the appropriation made by the Act referred to comes clearly within the exception in the Constitution, and is valid; that the bond in question is a good, valid, and legal claim against the State, and that the State is in law and equity bound to pay the same.

Your committee has not arrived at the foregoing conclusions with a view to this bond alone, but had in mind while considering the same the large outstanding indebtedness of the State occupying precisely the same position as this claim. This indebtedness has received the attention of previous Legislatures, and their action in the premises your committee deem it necessary to review. It is sufficient to say, however, that by reference to pages seven and eight of the report of the Controller of State for the fifteenth and sixteenth fiscal years, it will be found that there are bonds outstanding (of which the one before us is a sample) amounting in the aggregate to the sum of thirty-eight thousand and one hundred dollars, (\$38,100,) and interest thereon.

For the reasons heretofore given, your committee are clearly of the opinion that the honor of the State is pledged to the payment of these bonds, with interest, and that provision should be made for the payment of the same; and for that purpose your committee have prepared and herewith submit a bill to the Assembly, and recommend the passage of the same.

In conclusion, your committee would state, that in recommending the payment of these bonds they do not wish to be understood as favoring in the least the payment of the claim, or any portion thereof, based upon coupons detached from the Indian war bonds heretofore surrendered to the United States Government. These coupons, amounting to the sum of one hundred and seventy-two thousand eight hundred and sixty-eight dollars and fifty-four cents, your committee desire to leave where the objections of previous Legislatures have placed them.

Respectfully submitted,

GOODWIN, for Committee.

MINORITY REPORT.

Mr. SPEAKER :—Being a member of the Judiciary Committee, to whom was referred the appeal of F. J. Thibault from the decision of the State Board of Examiners, disallowing his claim upon what is known as the State Indian War Bonds, I have had the same under consideration, and beg leave to present the following minority report :

The said bond was issued on the eleventh day of August, eighteen hundred and fifty-four, under the provisions of an Act of the Legislature of this State, entitled an Act authorizing the Treasurer of the State to issue bonds for the payment of the expenses of the Mariposa, Second El Dorado, Utah, Los Angeles, Clear Lake, Klamath and Trinity, and Monterey expeditions against the Indians, approved May third, eighteen hundred and fifty-two. The Board of Examiners refused to allow the said claim for two reasons :

First—That it was never contemplated by the Act under which the bond is issued that the said bond should be paid by the State; but it was contemplated that said bond should be paid by the United States Government.

Second—That at the time said bond matured the indebtedness of the State exceeded the limit prescribed by the Eighth Article of the Constitution, and the debt is contracted under said Act, although there is no provision therein to submit the same to a vote of the people, nor does the same purport to have been passed in a case of war, to suppress insurrection, or repel invasion.

It is doubtless true that at the time the above entitled law was enacted, the Legislature contemplated the subsequent payment by the United States Government of all bonds issued under the provisions of said law. In fact, a portion of section one of said Act reads as follows : "A sum not exceeding six hundred thousand dollars is hereby appropriated and set aside as an additional War Fund, payable in ten years, out of any moneys which may be appropriated by Congress to defray the expenses incurred by the State of California, and interest thereon at the rate of seven per cent per annum, in the suppression of Indian hostilities, or out of the proceeds of the sale of any public lands which may be donated or set aside by Congress for that purpose," shows conclusively that such was the fact.

The question now presenting itself is, has the Federal Government refused the payment of said bonds? If so, upon what grounds?

We find that the United States Government refused payment on account of the unsatisfactory nature of the vouchers. That the claims were presented without any evidence whatever of their legality or justness. I believe that the Legislature passing the Act never contemplated the payment of these bonds by the State, but it was intended to procure an appropriation by Congress for the payment of these claims. Through the exertions of the State, Congress appropriated nearly one million dollars from the Federal Treasury for the payment of these claims. Further, that the money was ready upon the presentation of the claims with the proper or necessary vouchers, but the loose and unbusiness-like character of the claims defeated the object for which the appropriation was made. Mr. Davis, then Secretary of War, *on this ground alone*, refused to pay these claims.

I believe from all the facts in the premises that the State of California has done all that the Act passed contemplated that she should do; having procured the necessary appropriation by Congress for the payment of these bonds, she should no longer be held responsible for their payment.

As a further argument in favor of the position assumed in this report, I cite this honorable body to the fact that the Board of Examiners, after a full investigation into all the facts and the history of these bonds, disallowed the claim for reasons already given. Also, that the State Controller, in his last annual report, did not think these claims denominated "Old Indian War Debt," of sufficient importance to be ranked as a part of the State debt.

The State Controller, having examined the records of his office, regards the claims as no part of the State debt; the Board of Examiners, after a full and impartial investigation of the matter, having refused to allow the claims, in justice to the people of the State of California, already overburdened with taxation, it is the opinion of the undersigned that this Legislature ought not to pass any Act appropriating money to pay the said claims, or any part thereof. If we overstep the bounds of legal authority in this one instance, and allow the claim here presented, we open the door to thousands of claims equally as unjust as this so far as the State is concerned.

If the claim is a valid one against the State, no further legislation is necessary to secure its payment. The same section of the Act of eighteen hundred and fifty-two that obligates the State to the payment of these, if any obligation exists, makes the necessary appropriation; and all that is necessary for the bondholders to do is to bring suit to compel the Board of Examiners to audit and allow these bonds, there being sufficient money in the State Treasury not otherwise appropriated.

I would therefore recommend that the bill reported by the majority of the committee do not pass, but that a Commission be appointed to ascertain the number and amount of all bonds, vouchers, if any there be, coupons, warrants, and claims of every name and description, pertaining to the Indian wars of the State, and report to the next Legislature for a full and final determination of the same.

All of which is most respectfully submitted.

J. K. LUTTRELL,
Minority of Committee.

SAN FRANCISCO, CALIFORNIA, }
December, 1865. }

To the Honorable Board of Examiners of the State of California:

You will please take notice that I hereby appeal to the Legislature of the State of California from the decision of the Board of Examiners made on the seventeenth day of April, eighteen hundred and sixty-five, disapproving my claim against the State for the payment of the overdue Indian war bonds and coupons, issued under an Act of the Legislature of the State of California, approved May third, eighteen hundred and fifty-two.

Very respectfully, yours, etc.,

F. J. THIBAUT.

OFFICE OF BOARD OF EXAMINERS, }
Sacramento, April 17th, 1865. }

At the regular meeting of the Board of Examiners, held this day, the annexed claim of F. J. Thibault, for the sum of one hundred and fifty-four dollars and five cents (\$154 05) "was disallowed for the following reasons, among others:

"That, first, it was never contemplated by the Act under which the bond is issued that said bond should be paid by the State; but it was contemplated that the same should be paid by the United States Government.

"That, second, at the time said bond matured, the indebtedness of the State exceeded the limit prescribed by the Eighth Article of the Constitution. And the debt is contracted under said Act, although there is no provision therein to submit the same to a vote of the people; nor does the same purport to have been passed in a case of war to suppress insurrection or repel invasion."

[Extract from the minutes of the Board of Examiners.—W. E. BROWN, Clerk of Board.]

STATE OF CALIFORNIA,

To F. J. THIBAUT.

Amount Bond No. 393, of the State of California, issued in pursuance with an Act of the Legislature, approved May third, eighteen hundred and fifty-two, to Elam Covington, dated August eleventh, eighteen hundred and sixty-four, for One Hundred Dollars.....	\$100 00
Nine coupons attached for interest due, as per copy annexed...	54 05
	<hr/> \$154 05

No. 393. BOND OF THE STATE OF CALIFORNIA No. 393.

FOR WAR INDEBTEDNESS,

[100]

In conformity with

[100]

An Act authorizing the Treasurer of the State to issue bonds for the payment of the expenses of certain expeditions against the Indians, approved May 3d, 1852.

THE STATE OF CALIFORNIA promises to pay to the order of the Governor thereof, on the second day of May, A. D. 1862, at the office of the State Treasurer, One Hundred Dollars, provided the same be not sooner paid from funds anticipated in said Act to be derived from the Government of the United States, with interest at the rate of seven per cent per annum, payable at the said Treasurer's office, on the surrender of the annexed coupons, on the first day of January, A. D. 1853, and annually thereafter. This Bond transferable by assignment on the same by the owner thereof or by his attorney in fact.

In testimony whereof, the Treasurer, Controller, and Governor have respectively signed, countersigned, and indorsed these presents, and affixed the seal of the State thereto, this eleventh day of August, A. D. 1854.

SAM. BELL, Controller.

S. A. McMEANS, Treasurer.

[Coupon No. 3—\$2 70.]

[Coupon No. 4—\$7.]

[Coupon No. 5—\$7.]

[Coupon No. 6—\$7.]

[Coupon No. 7—\$7.]

[Coupon No. 8—\$7.]

[Coupon No. 9—\$7.]

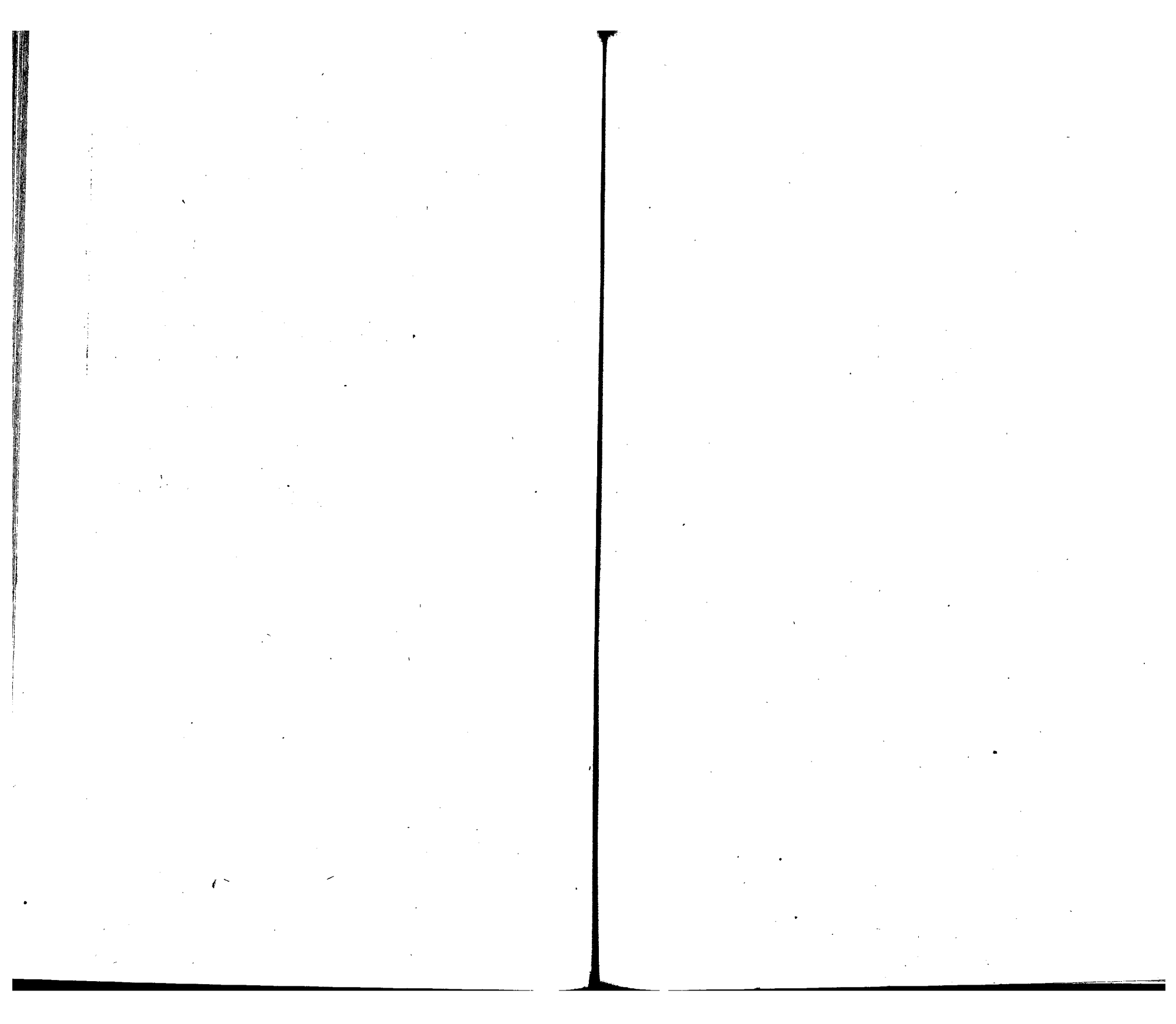
[Coupon No. 10—\$7.]

[Coupon No. 11—\$2 35.]

(Indorsed:)

Issued August 11th, 1854, to Elam Covington.—S. A. McMEANS, Treasurer, per GEO. W. GIFT, Clerk.

John Bigler, Elam Covington.



REPORT
OF THE
DISBURSING OFFICERS
OF THE
Second Brigade, California Militia.

B

THE STATE OF CALIFORNIA

IN ACCOUNT CURRENT WITH THE

Disbursing Officers of the Second Brigade, C. M.,

IN COMPLIANCE WITH SECTION SEVEN OF THE ACT ENTITLED AN ACT TO APPROPRIATE FUNDS
FOR THE DEFENCE OF THE STATE, APPROVED APRIL TWENTY-FIFTH,
A. D. EIGHTEEN HUNDRED AND SIXTY-THREE.

RECEIPTS.

RECEIVED FROM THE STATE FOR ACCOUNT OF THE SECOND BRIGADE.

Cash balance on hand at date of last report in favor of the Second Regiment.....	\$	33
Cash balance on hand at date of last report in favor of the Jackson Dragoons.....		59
Cash balance on hand at date of last report in favor of the First California Guard.....		671 25
Warrant No. 1,696 on hand in favor of Washington Guards..		940 00
Warrant No. 1,698 on hand in favor of Russian River Rifles..		1,120 00
Warrant No. 1,697 on hand in favor of Bloomfield Guards....		660 00
Warrant No. 1,695 on hand in favor of Petaluma Guards.....		680 00
Warrant No. 1,702 on hand in favor of Watsonville Guards....		1,260 00
Warrant No. 1,706 on hand in favor of Butler Guards.....		1,300 00
Warrant No. 186 received in favor of Santa Clara Light Inf'y		1,320 00
Warrant No. 196 received in favor of Maine Prairie Rifles....		920 00
Warrant No. 197 received in favor of Santa Clara Zouaves....		1,000 00
Warrant No. 198 received in favor of Washington Light Art'y		900 00
Warrant No. 208 received in favor of New Almaden Cavalry		2,000 00
Warrant No. 314 received in favor of Napa Rangers.....		2,000 00
Warrant No. 398 received in favor of Templar Guard.....		960 00
Warrant No. 1,187 received in favor of Tittel Zouaves.....		1,400 00
Warrant No. 1,188 received in favor of Lincoln Cavalry.....		2,000 00
Carried forward.		\$19,132 17

O. M. CLAYES.....STATE PRINTER.

Brought forward.....	\$ 19,182 17
Warrant No. 1,210 received in favor of Ellis Guard.....	940 00
Warrant No. 1,211 received in favor of Burnett Light Horse Guard.....	2,000 00
Warrant No. 6,162 received in favor of Steuben Guard.....	940 00
Warrant No. 6,163 received in favor of San Francisco Tirailleurs.....	860 00
Warrant No. 6,164 received in favor of California Fusilleers..	940 00
Warrant No. 6,165 received in favor of Sigel Rifles.....	1,100 00
Warrant No. 6,166 received in favor of Germania Guard.....	1,140 00
Warrant No. 6,167 received in favor of Jefferson Cavalry.....	2,000 00
Warrant No. 6,168 received in favor of Contra Costa Guard..	2,000 00
Warrant No. 6,169 received in favor of Alviso Rifles.....	1,140 00
Warrant No. 6,170 received in favor of Gilroy Guards.....	1,260 00
Warrant No. 6,171 received in favor of Alvarado Guards.....	1,160 00
Warrant No. 6,172 received in favor of McClellan Guard.....	1,220 00
Warrant No. 6,182 received in favor of Santa Cruz Cavalry..	2,000 00
Warrant No. 6,185 received in favor of California Grenadiers	940 00
Warrant No. 6,186 received in favor of California Musketeers	1,000 00
Warrant No. 6,187 received in favor of San José Zouaves.....	1,350 00
Total receipts.....	\$41,182 17

DISBURSEMENTS.

FIRST CALIFORNIA GUARD.

<i>Voucher No. 1.</i>	
Blake & Co., bill for hats.....	\$700 00
Paid by the company	28 75
	\$671 25

PETALUMA GUARD.

<i>Voucher No. 2.</i>	
Mission Woollen Mills, bill for uniforms	\$1,007 50
Paid by the company	327 50
	\$680 00

WASHINGTON GUARD.

<i>Voucher No. 3.</i>	
Mission Woollen Mills, bill for uniforms	\$989 00
Paid by the company	49 00
	\$940 00

BLOOMFIELD GUARD.

<i>Voucher No. 4.</i>	
Mission Woollen Mills, bill for uniforms	\$691 50
Paid by the company	31 50
	\$660 00

RUSSIAN RIVER RIFLES.

<i>Voucher No. 5.</i>	
Mission Woollen Mills, bill for uniforms.....	\$1,150 00
Paid by the company	30 00
	\$1,120 00

WATSONVILLE GUARD.

<i>Voucher No. 6.</i>	
A. Lamott, bill for uniforms	\$1,260 00

BUTLER GUARD.

<i>Voucher No. 7.</i>	
A. Lamott, bill for uniforms	\$1,625 00
Paid by the company	325 00
	\$1,300 00

SANTA CLARA LIGHT INFANTRY.

<i>Voucher No. 8.</i>		
Blake & Co., bill for hats.....	\$226 56	
<i>Voucher No. 9.</i>		
Mission Woollen Mills, bill for uniforms	855 00	
<i>Voucher No. 10.</i>		
J. A. McClelland, bill for uniforms	\$245 00	
Paid by the company	6 56	\$238 44
		\$1,320 00

MAINE PRAIRIE RIFLES.

<i>Voucher No. 11.</i>		
A. Lamott, bill for uniforms.....		\$920 00

WASHINGTON LIGHT ARTILLERY.

<i>Voucher No. 12.</i>		
E. N. Boynton, bill for uniforms.....	\$999 95	
Paid by the company.....	99 95	
		\$900 00

NEW ALMADEN CAVALRY.

<i>Voucher No. 13.</i>		
Main & Winchester, bill for horse equipments	\$1,125 00	
<i>Voucher No. 14.</i>		
Mission Woollen Mills, bill for uniforms	875 00	
		\$2,000 00

TEMPLAR GUARD.

<i>Voucher No. 15.</i>		
Mission Woollen Mills, bill for uniforms		\$960 00

TITTEL ZOUAVES.

<i>Voucher No. 16.</i>	
Ewald & Co., bill for uniforms.....	\$1,400 00

ELLIS GUARD.

<i>Voucher No. 17.</i>	
Heyneman & Co., bill for uniforms	\$1,237 50
Paid by the company	297 50
	\$940 00

BURNETT LIGHT HORSE GUARD.

<i>Voucher No. 18.</i>	
Mission Woollen Mills, bill for uniforms.....	\$1,300 00
<i>Voucher No. 19.</i>	
Main & Winchester, bill for horse equipments.....	700 00
	\$2,000 00

STEUBEN GUARD.

<i>Voucher No. 20.</i>	
Heyneman & Co., bill for uniforms	\$1,104 00
Paid by the company.....	261 26
	\$842 74
<i>Voucher No. 21.</i>	
R. F. Ricchiccioli, bill for cap trimmings.....	25 60
<i>Voucher No. 22.</i>	
W. Fleisher, bill for caps and letters.....	71 66
	\$940 00

SAN FRANCISCO TIRALLEURS.

<i>Voucher No. 23.</i>		
Heyneman & Co., bill for uniforms.....	\$1,012 00	
Paid by the company.....	241 19	
	<u>\$770 81</u>	
<i>Voucher No. 24.</i>		
R. F. Ricchiccioli, bill for cap trimmings.....	23 50	
<i>Voucher No. 25.</i>		
W. Fleisher, bill for caps and letters	65 69	
	<u>\$860 00</u>	

CALIFORNIA FUSILEERS.

<i>Voucher No. 26.</i>		
Heyneman & Co., bill for uniforms.....	\$1,104 00	
Paid by the company.....	261 26	
	<u>\$842 74</u>	
<i>Voucher No. 27.</i>		
R. F. Ricchiccioli, bill for cap trimmings.....	25 60	
<i>Voucher No. 28.</i>		
W. Fleisher, bill for caps and letters.....	71 66	
	<u>\$940 00</u>	

SIGEL RIFLES.

<i>Voucher No. 29.</i>		
Heyneman & Co., bill for uniforms.....	\$1,265 00	
Paid by the company.....	276 48	
	<u>\$988 52</u>	
<i>Voucher No. 30.</i>		
R. F. Ricchiccioli, bill for cap trimmings.....	29 37	
<i>Voucher No. 31.</i>		
W. Fleisher, bill for caps and letters.....	82 11	
	<u>\$1,100 00</u>	

GERMANIA GUARD.

<i>Voucher No. 32.</i>		
Heyneman & Co., bill for uniforms.....	\$1,334 00	
Paid by the company	311 56	
	<u>\$1,022 44</u>	
<i>Voucher No. 33.</i>		
R. F. Ricchiccioli, bill for cap trimmings.....	30 97	
<i>Voucher No. 34.</i>		
W. Fleisher, bill for caps and letters	86 59	
	<u>\$1,140 00</u>	

JEFFERSON CAVALRY.

<i>Voucher No. 35.</i>		
Mission Woollen Mills, bill for uniforms, (coats)....	\$700 00	
<i>Voucher No. 36.</i>		
Mission Woollen Mills, bill for uniforms, (pants)...	300 00	
<i>Voucher No. 37.</i>		
John C. Edgar, bill for horse equipments...	\$1,280 00	
Paid by the company	280 00	
	<u>\$1,000 00</u>	
		<u>\$2,000 00</u>

ALVISO RIFLES.

<i>Voucher No. 38.</i>		
Mission Woollen Mills, bill for uniforms.....	\$1,425 00	
Paid by the company	285 00	
	<u>\$1,140 00</u>	

GILROY GUARDS.

<i>Voucher No. 39.</i>		
A. Lamott, bill for uniforms.....	\$1,575 00	
Paid by the company.....	315 00	\$1,260 00

ALVARADO GUARDS.

<i>Voucher No. 40.</i>		
Mission Woollen Mills, bill for uniforms.....	\$1,875 50	
Paid by the company.....	215 50	\$1,160 00

M'CLELLAN GUARD.

<i>Voucher No. 41.</i>		
H. Burkhein, bill for uniforms.....	\$1,242 00	
Paid by the company.....	22 00	\$1,220 00

SANTA CRUZ CAVALRY.

<i>Voucher No. 42.</i>		
A. Lamott, bill for uniforms and bridles.....		\$2,000 00

CALIFORNIA GRENADIERS.

<i>Voucher No. 43.</i>		
Heyneman & Co., bill for uniforms.....	\$1,081 00	
Paid by the company.....	236 27	\$844 73
<i>Voucher No. 44.</i>		
R. F. Ricchiccioli, bill for cap trimmings.....	25 10	
<i>Voucher No. 45.</i>		
W. Fleisher, bill for caps and letters.....	70 17	\$940 00

CALIFORNIA MUSKETEERS.

<i>Voucher No. 46.</i>		
Heyneman & Co., bill for uniforms.....	\$1,150 00	
Paid by the company.....	251 35	\$898 65
<i>Voucher No. 47.</i>		
R. F. Ricchiccioli, bill for cap trimmings.....	26 70	
<i>Voucher No. 48.</i>		
W. Fleisher, bill for caps and letters.....	74 65	\$1,000 00

SAN JOSÉ ZOUAVES.

<i>Voucher No. 49.</i>		
L. Lachman, bill for repairs and alterations to uniforms.....	\$74 55	
Paid by the company.....	4 97	\$69 58
<i>Voucher No. 50.</i>		
Blake & Co., bill for hats.....	118 42	
<i>Voucher No. 51.</i>		
Mission Woollen Mills, bill for uniforms.....	1,172 00	\$1,360 00

NAPA RANGERS.

<i>Voucher No. 52.</i>	
Mission Woollen Mills, bill for uniforms	\$730 10
<i>Voucher No. 53.</i>	
Main & Winchester, bill for horse equipments	\$1,388 00
Paid by the company.....	118 10
	<u>1,269 90</u>
	\$2,000 00

LINCOLN CAVALRY.

<i>Voucher No. 54.</i>	
Main & Winchester, bill for horse equipments.....	\$1,125 00
<i>Voucher No. 55.</i>	
Mission Woollen Mills, bill for uniforms	875 00
	<u>2,000 00</u>

CONTRA COSTA GUARD.

<i>Voucher No. 56.</i>	
H. Burkhein, bill for uniforms	\$875 00
<i>Voucher No. 57.</i>	
Main & Winchester, bill for horse equipments.....	1,125 00
	<u>2,000 00</u>

Total disbursements.....\$40,131 25.

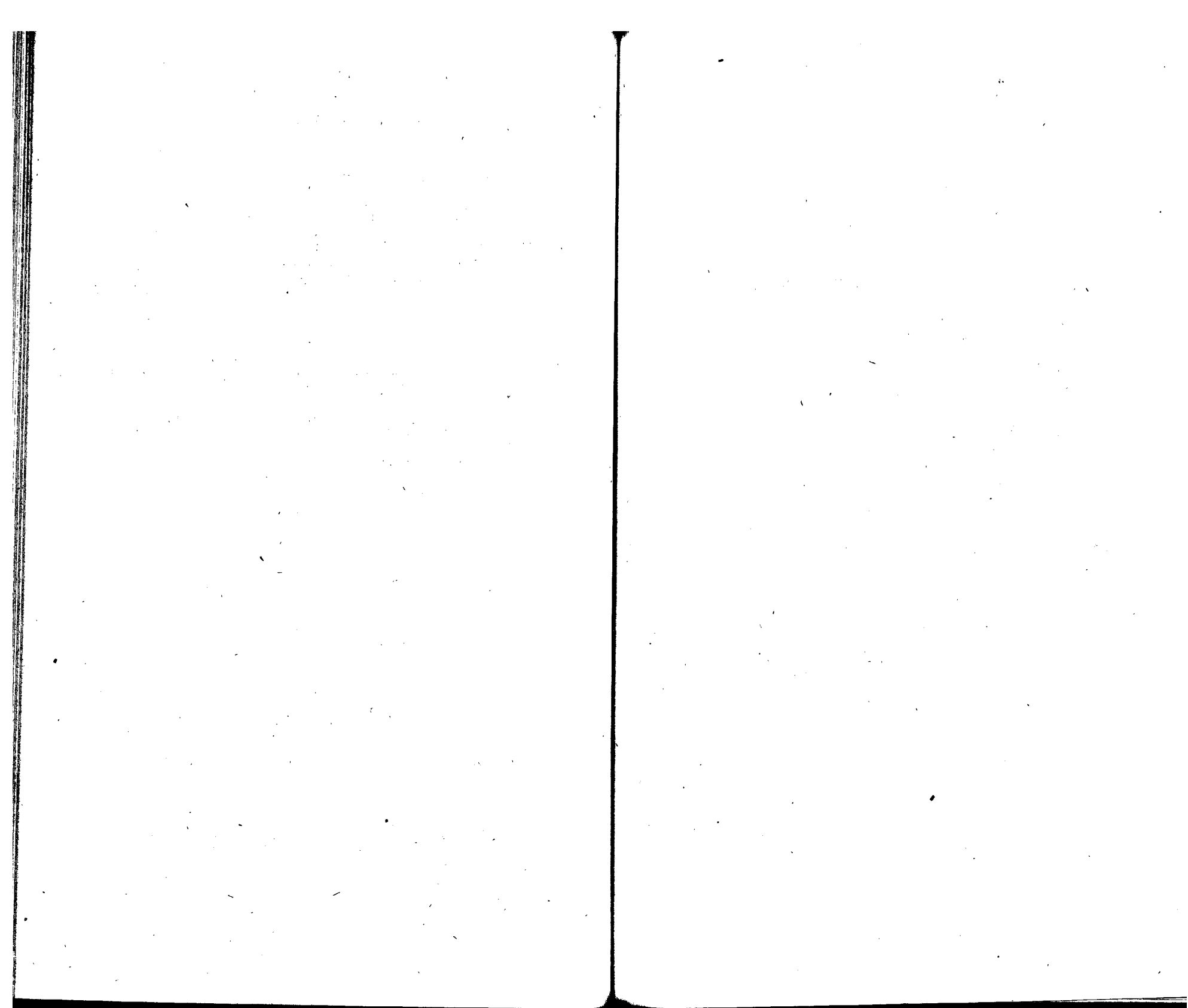
RECAPITULATION.

Receipts	\$41,132 17
Disbursements as per foregoing accounts.....	\$40,131 25
Cash and warrants on hand viz :	
Cash in favor of Second Regiment Infantry...	33
Cash in favor of Jackson Dragoons.....	59
Warrant in favor of Santa Clara Zouaves.....	1,000 00
	<u>\$41,132 17</u>

The foregoing report is respectfully submitted, this fifth day of December, A. D. one thousand eight hundred and sixty-five.

JOHN HEWSTON, JR.,
Brig.-Gen. com'g 2d Brig. C. M., and Sec. of Board of Disbursing Officers.

SAN FRANCISCO, December, 1865.



MESSAGE FROM THE GOVERNOR

CONCERNING CERTAIN

Swamp and Overflowed Lands

IN

TULARE VALLEY.

MESSAGE.

To the Honorable the Senate and Assembly of the State of California:

GENTLEMEN:—By an Act passed by the Legislature of this State, and approved April twenty-seventh, A. D. eighteen hundred and fifty-seven, entitled an Act to provide for the construction of canals, and for draining and reclaiming certain swamp and overflowed lands in Tulare Valley, and by Acts amendatory of and supplementary thereto, approved April tenth, A. D. eighteen hundred and sixty-two, and April twenty-fifth, A. D. eighteen hundred and sixty-three, all the odd-numbered sections of swamp and overflowed lands within certain limits described in said Acts are granted to the individuals named therein and their assigns, upon condition that they shall so reclaim the same as to make them susceptible of cultivation.

By section six of the Act of April tenth, eighteen hundred and sixty-two, it is provided that the Governor and Surveyor-General of this State shall approve and certify to such reclamation before any title shall vest in the said grantees.

On the fifteenth day of June, A. D. eighteen hundred and sixty-five, Mr. Thomas Baker, agent for the grantees, reported to the Governor and Surveyor-General that the reclamation was completed, according to the provisions of the Acts referred to, which report was accompanied by a request that they would cause such an examination to be made as would enable them to approve the same, as provided by said Acts.

In order to act understandingly in the premises, such examination was necessary, and although no provision had been made to pay for such service, we selected for that purpose Mr. A. R. Jackson, of Sacramento, an engineer of experience in such works, and directed him by a letter of instructions, dated September twenty-first, A. D. 1865, (the substance of which will be found in his report,) to proceed to the ground, and to report in detail all matters connected with such reclamation.

His report and accompanying map, which we herewith submit, show thorough investigation, and represent that the three tracts of land colored with buff or straw color on the map, and embracing one hundred and fifty-eight thousand one hundred and forty acres, have been reclaimed in such manner as to render them fit for cultivation, and that one hundred and ninety-seven thousand acres, (which he reports to be mostly

not susceptible of reclamation,) remain unreclaimed within the section of country described in the Acts referred to.

He further estimates that the company has expended in canals and works of reclamation, the sum of twenty-seven thousand dollars, of which the sum of twenty thousand dollars was useless expenditure, attempting to construct a canal, and that only the sum of seven thousand dollars has been actually properly expended in works of reclamation; yet he reports that owing to the peculiar formation of the country, this small expenditure has reclaimed the large amount of land before mentioned.

While we must regret the legislation which has disposed of so large an amount of lands for so small a consideration, we feel compelled to report that we believe that, under the provisions of the Acts referred to, the grantees and their assigns are entitled to, or at least have a strong claim to, the odd-numbered sections in the tracts which they have reclaimed, and a further amount equal to four times the number of acres, which the State has sold, of the said odd-numbered sections within the grant.

The amount of land contained in the odd-numbered sections in the reclaimed district is eighty thousand and eighty acres, and of these odd-numbered sections the State has sold five thousand five hundred and twenty acres to other purchasers.

And in order that the State may be released from a bad contract, we have endeavored to learn the best terms upon which it may be done, and for that purpose we recommend that, upon condition that the grantees will release to the State all claim they may have upon the one hundred and ninety-seven thousand acres which they have not reclaimed, that the Governor be directed to issue to said grantees, or their assigns, patents for all the odd-numbered sections, or parts of sections, within the tracts or districts reported to us by our examining engineer as reclaimed, except such as have been sold by the State, and a further quantity equal to four times the amount of the odd-numbered sections sold within the grant by the State to others, to be selected by the grantees, or their assigns, from the even-numbered sections within the same body of land from which the State has made such sales.

This proposition would give to the grantees ninety-six thousand six hundred and forty acres of land, and would reserve to the State fifty-five thousand nine hundred and eighty acres of land unsold which has been reclaimed, and one hundred and ninety-seven thousand acres of unreclaimed land, within the district described in the several Acts referred to.

The representative of the grantees has indicated to us that this proposition would be acceptable to them, provided they would be permitted to select the two thousand two hundred and eighty acres in place of the five thousand five hundred and twenty acres sold by the State, from any part of the land they have reclaimed; but we have thought best to confine such selections to the same body of land in which the sales were made.

All of which is respectfully submitted.

FRED'K F. LOW,
Governor.
J. T. HOUGHTON,
Surveyor-General.

CERTIFIED COPY

OF

RESOLUTION OF CONGRESS

SUBMITTING TO THE SEVERAL STATES THE

Amendment of the Constitution of the United States.

RESOLUTION.

UNITED STATES OF AMERICA,
Department of State. }

To all to whom these presents shall come, greeting :

I certify that annexed is a true copy of a joint resolution of Congress, entitled "A resolution submitting to the Legislatures of the several States a proposition to amend the Constitution of the United States," the original of which is on file in this Department.

In testimony whereof, I, William H. Seward, Secretary of State of the United States, have hereunto subscribed my name and caused the seal of the Department of State to be affixed.



Done at the City of Washington, this second day of February, A. D. eighteen hundred and sixty-five, and of the Independence of the United States of America the eighty-ninth.

WILLIAM H. SEWARD.

A RESOLUTION *submitting to the Legislatures of the several States a proposition to amend the Constitution of the United States :*

Resolved, by the Senate and House of Representatives of the United States of America in Congress assembled, (two thirds of both Houses concurring,) That the following Article be proposed to the Legislatures of the several States as an amendment to the Constitution of the United States, which, when ratified by three fourths of said Legislatures, shall be valid, to all intents and purposes, as a part of the said Constitution, namely :

ARTICLE XIII.

SECTION 1. Neither slavery nor involuntary servitude, except as a punishment for crime, whereof the party shall have been duly convicted, shall exist within the United States, or any place subject to their jurisdiction.

SECTION 2. Congress shall have power to enforce this Article by appropriate legislation.

APPROVED February 1st, 1865.

O. M. CLAYES.....STATE PRINTER.

REPORT

FROM THE

HON. LELAND STANFORD,

PRESIDENT OF THE

Central Pacific Railroad Company.

REPORT.

To His Excellency, FREDERICK F. LOW,
Governor of California:

Though not a requirement of law that the Pacific Railroad Company should make a report to you of the progress of their work, yet in view of the importance to the State of its early completion, and the interest taken in it by the people of the State, there seems to be a manifest propriety that you should be possessed of the main features of its progress and future prospects, that you may, in your discretion, notice in your annual message what shall appear to be needful, and of consequence to be given to the public.

The importance of the Pacific Railroad to the people of this State, coast, and nation, has never been overestimated, and probably never will be fully appreciated until its construction, and time shall have developed the magnificent and beneficent results that await its completion. Our country is to be the great channel of the commerce between Europe and Asia. The west bound to the east, not alone by fraternal ties, but by those of interest, the most enduring and reliable in the affairs of nations. Not more important to our nationality was the southern territory lately in rebellion than will be the Pacific States. For their development the railroad is a necessity. With it they spring at once into populous and prosperous States, yielding to the nation overflowing wealth from their vast and rich mineral deposits, their commercial and agricultural advantages and products.

With a due appreciation of all this, the Central Pacific Railroad Company—the one intrusted by Congress with the construction of the western division of the Pacific Railroad—have been, and are prosecuting their work with the utmost vigor.

On the eight of January, eighteen hundred and sixty-three, the formal breaking of ground for the work was made. The real labor of construction did not commence until the spring of that year.

Far removed by space and time from the source of their supplies—compelled to rely upon the means derived directly from the stockholders of the company, and its credit—there was on the second day of last January constructed and in operation thirty-one miles of road to Newcastle, with iron and rolling stock on hand for twenty miles more. On that day

the Supreme Court rendered a decision declaring constitutional and binding the law of the State providing for the payment of the interest for twenty years on the bonds of the company for one million five hundred thousand dollars. Before this decision, the aid of the State had not been available to the company, in consequence of the questions of constitutionality raised in reference to it. The favorable decision of the Supreme Court made the aid of the State immediately available. On the day of its rendition orders were given to employ all the force that could be procured for construction; and from that time to this, those orders have never been countermanded, and all the labor that could be procured has been employed, until the force now actually engaged in construction is about five thousand.

In May of this year the United States Government aid was received for the first time. With this assistance, from the time the State aid was made available, the company has not wanted for funds. The result is, that in the space of ten months the company has constructed and put in operation twenty-three miles of road, from Newcastle to Colfax, and have substantially graded that portion between the latter place and Dutch Flat, a distance of fourteen miles, with a large force engaged beyond, including work upon a tunnel at the summit. The work done is of a heavy character, but is done in a substantial manner, not inferior to that of any railroad in the United States. On this, Mr. George E. Gray, late Chief Engineer of the New York Central Railroad, after a careful examination of the work then completed, reports as follows: "That portion from the City of Sacramento to Clipper Gap, forty-three miles, will compare most favorably in every respect with any railroad in the United States." It is the intention of the company to maintain the character of the road in all that they may construct.

It is confidently believed that we shall be able to retain the greater portion of our present force through the approaching winter, and largely increase it in the Spring following, until it shall have attained a number of ten thousand or more.

The laborers employed are mostly Chinese, there being less than one thousand white laborers—all that could be obtained. The Chinese are found to be good laborers, very reliable, and at the price at which they can be had, the cheapest.

Possessed of sufficient means, every sense of duty and interest impel the railroad company to prosecute the work with the greatest possible rapidity.

We are arranging for and confidently believe we will be able to run the locomotive over the summit the next season, and have the track progressing eastwardly as fast as the materials can be obtained and placed. The work to be encountered is of a formidable character, but the rapidity and success with which the obstacles already encountered have been overcome, is a guarantee that we are not estimating our future progress with an overweening confidence. Already the grading is substantially completed to an altitude of three thousand five hundred feet, and equal to one half the altitude to be overcome.

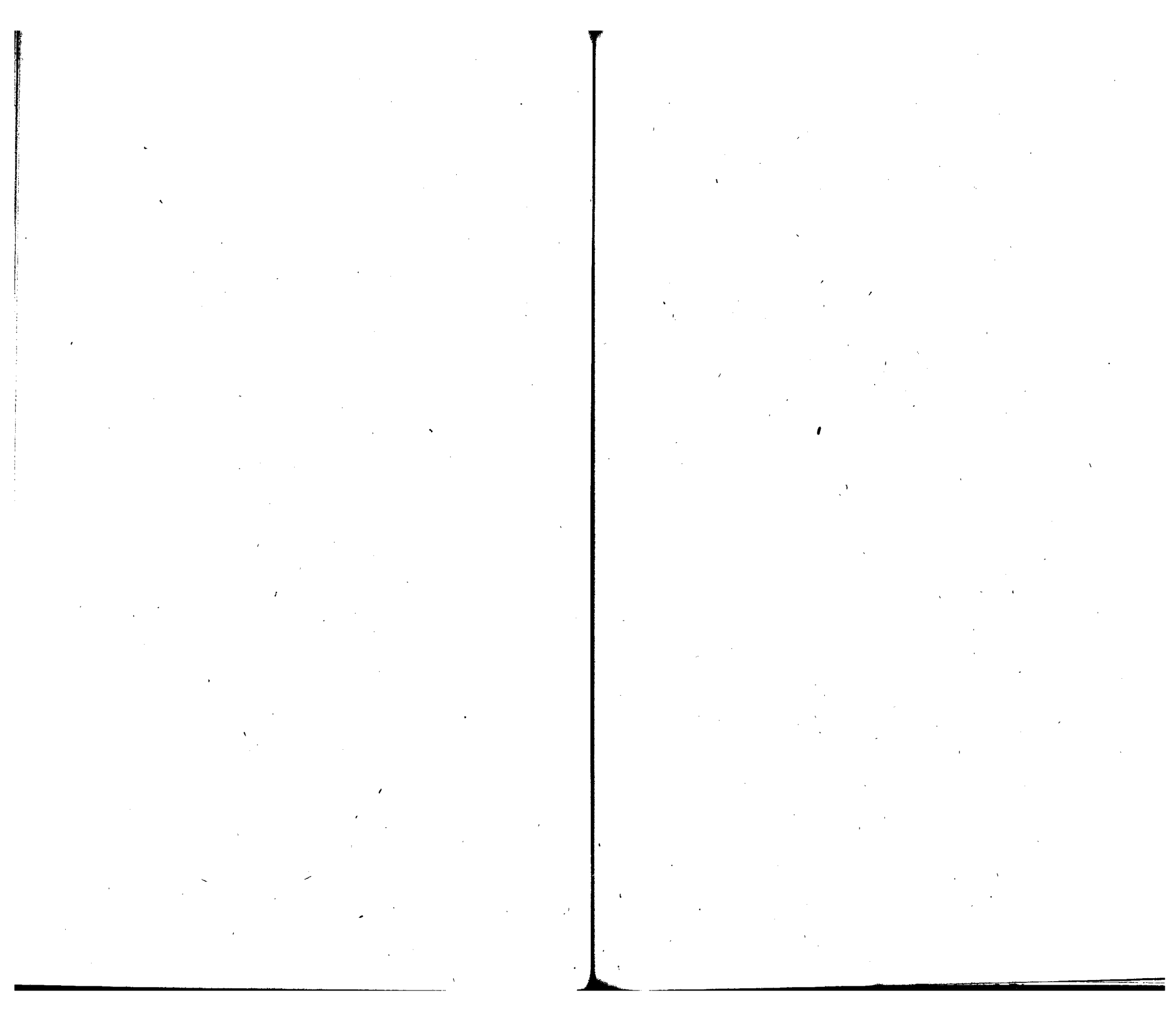
I confidently believe, should no untoward event intervene, that the road will be constructed to Salt Lake in three years from next spring. To do this will require great energy and a careful provision of the means, but the railroad company feel assured that they foresee what is necessary, and that all can be provided. Of the magnitude of the proposition an idea can be formed when it is known that it will require to be manufactured and shipped from the East not much less than one hundred

thousand tons of material. Necessary labor can undoubtedly be obtained on this coast. After the Sierra Nevadas are passed, ten thousand men on either end of the Pacific Railroad can unquestionably construct the road as fast as the track can be laid. In this respect very erroneous ideas seem to prevail. The number of men named can unquestionably, the Sierra Nevadas being overcome, construct the road as rapidly as a greater number. This will be better appreciated when it is considered that the materials must pass from the eastern and western ends, as constructed. There certainly seems to be good reasons for believing that the Pacific Railroad will be completed and in the transport of passengers and freight in five years at most.

Appreciating, as I know your excellency does, the importance of this great work to the nation and the State, whose position of Chief Executive you so honorably fill, I feel that I can congratulate you, and through you the people of California, upon the glowing prospects that dawn upon them in the near future, through the Pacific Railroad.

Respectfully, etc.,

LELAND STANFORD,
President Central Pacific Railroad Company.



AN ACT
OF THE
LEGISLATURE OF NEVADA

IN THE MATTER OF THE

Boundary between Nevada and California.

D

AN ACT

TO AUTHORIZE THE SURVEY AND TO ESTABLISH THE WESTERN BOUNDARY
LINE OF THE STATE OF NEVADA

*The People of the State of Nevada, represented in Senate and Assembly, do
enact as follows:*

SECTION 1. That the eastern boundary of the State of California, as surveyed and established under the provisions of an Act of the Legislature of that State, entitled "an Act to provide for surveying and establishing the eastern boundary of the State of California," approved April twenty-seventh, eighteen hundred and sixty-three, be and the same is hereby confirmed and established as the western boundary of the State of Nevada.

SECTION 2. That a suitable person be appointed as Commissioner to carry out the provisions of this Act, and that he be and is hereby authorized and empowered to continue the said boundary line from the point where the same was suspended, on the part of the State of California, to the distance of thirty miles from the place of beginning, as aforesaid.

SECTION 3. The Commissioner is hereby authorized to contract with and employ a skilful and competent engineer to survey and establish the western boundary of the State as herein provided; provided, the expenses of surveying the same shall not exceed the sum of seventy dollars per mile, and that no additional charges shall be allowed for stores, equipments, plats, or reports of such survey; provided, the sum of three hundred dollars be allowed such Commissioner as compensation for his services.

SECTION 4. The sum of twenty-four hundred dollars is hereby appropriated for that purpose; and that the Governor is authorized to draw from the State Treasurer, out of any moneys not otherwise appropriated, such sums for that purpose as may be required, not exceeding the sum of twenty-four hundred dollars.

SECTION 5. It shall be the duty of the Commissioner to be present in the field, and see that the work be properly done, and that such suitable marks and monuments be placed upon the line as shall clearly define the place and direction of the same; and upon the completion of the work, or of any part thereof, he shall make out a report and map of the same, one copy of which shall be deposited with the Secretary of the State, and one copy to be transmitted to the Secretary of the State of Cali-

O. M. CLAYES.....STATE PRINTER.

fornia. And upon the approval of the same by the State of California, so much of the line as shall have been surveyed under the provisions of this Act shall also become the legal boundary between this State and the State of California.

SECTION 6. The Controller is hereby directed to draw his warrant on the Treasurer, in favor of the Commissioner—provided that before entering upon the duties of his office, the Commissioner shall have executed and deposited with the Secretary of the State his bond, with good and sufficient sureties, to be approved by that officer, in the amount of the appropriation herein made.

SECTION 7. It is hereby made the duty of the Governor of the State, immediately upon the approval of this Act, to appoint, by and with the advice and consent of the Senate, a suitable person as Commissioner, and to forward a copy of this Act to the Governor of the State of California, with the request that the Surveyor-General, as Commissioner on the part of that State, approve the survey herein required to be made.

SECTION 8. Nothing in this Act shall be construed to prevent another and different line from being established as the boundary between the two States.

SECTION 9. This Act shall take effect on and after its passage.

Approved February 7th, 1865.

STATE OF NEVADA,
Department of State. } ss.

I, C. N. Noteware, Secretary of State of the State of Nevada, do hereby certify that the foregoing is a true, full, and correct copy of an Act to authorize the survey, and to establish the western boundary line of the State of Nevada, approved February seventh, eighteen hundred and sixty-five, now on file in my office.

SEAL.

Witness my hand and the great seal of State hereto affixed.
Done at office, in Carson City, Nevada, on this ninth day of
February, A. D. eighteen hundred and sixty-five.

C. N. NOTEWARE,
Secretary of State.

REPORT

OF THE

ASSEMBLY JUDICIARY COMMITTEE

ON THE

Governor's Veto of Assembly Bill No. 507,

AN ACT TO AUTHORIZE JOSEPH S. ALEMANY, ROMAN CATHOLIC ARCHBISHOP
OF SAN FRANCISCO, TO SELL AND CONVEY CERTAIN REAL ESTATE
SITUATED IN THE CITY AND COUNTY OF SAN FRANCISCO.

REPORT.

MR. SPEAKER :—The Judiciary Committee, to whom was referred the subject of the objections of the Governor to Assembly Bill No. 507, an Act to authorize Joseph Allemany, Roman Catholic Archbishop of San Francisco, to sell and convey certain real estate situated in the City and County of San Francisco, have had the matter under consideration, and report the bill, with the message of the Governor, back to the Assembly, with the recommendation that the Governor's veto be sustained—fully believing that from the premises stated, and from the facts in the case, the conclusions arrived at by the Governor, and stated in his message, are correct.

The Legislature has no power to divert the trust created by those who conveyed the property to Alemany, except by unanimous consent of all the persons who were members of the German Roman Catholic Building Association, and the Roman Catholic Congregation. Under the circumstances, if the property should be sold in the manner prescribed in the bill, the sale would be void. No man can be divested of his property by an Act of the Legislature without his consent. The committee therefore recommend that the Governor's veto be sustained.

Also, Assembly Bill No. 513, an Act supplementary to an Act concerning divorces, passed March twenty-fifth, eighteen hundred and fifty-one, approved April twenty-fourth, eighteen hundred and fifty-seven—and report the bill back to the Assembly, with amendments, and recommend the passage of the bill as amended.

Also, Assembly Bill No. 342, an Act relative to the office of District Attorney of the County of Amador—the committee report back with an amendment, and as amended the committee know of no reason why the bill should not be passed.

Also, Assembly Bill No. 250, an Act amendatory of the Act of April twenty-seventh, eighteen hundred and sixty-three, entitled an Act concerning grand and trial jurors—the committee recommend that the bill do not pass.

Also, substitute for Senate Bill No. 269, an Act supplementary to the Act of March twenty-sixth, eighteen hundred and fifty-one, concerning County Recorders—the committee report back and recommend its passage.

BROWN, Chairman.

GOVERNOR'S MESSAGE.

STATE OF CALIFORNIA, EXECUTIVE DEPARTMENT, }
Sacramento, March 20th, 1866.

To the Assembly of the State of California:

I herewith return to your honorable body, without my approval, Assembly Bill No. 507, an Act to authorize Joseph S. Alemany, Roman Catholic Archbishop of San Francisco, to sell and convey certain real estate situated in the City and County of San Francisco.

The bill proposes to authorize and empower Joseph S. Alemany to sell and convey to the Mercantile Library Association a certain lot of ground, with the buildings thereon, now held in trust by the said Alemany for the use and benefit of the German Roman Catholic Building Association, and the German Roman Catholic Congregation; the sale to be made and consummated after it shall have been authorized by a vote of at least two thirds of said association and congregation, at a meeting duly called. The funds derived from the sale of the property are directed to be held by the said Archbishop for the use and enjoyment of the said association and congregation, "subject to such trusts and uses as he now holds the lands and premises hereby authorised to be conveyed."

Since the passage of the bill by the Legislature, a paper, signed by a large number of persons, members of the said congregation, protesting against the action of the Legislature, has been presented to me; also a copy of the deed of conveyance to the Archbishop. These papers have been handed to me for the alleged reason that the persons interested had no notice of the introduction of the bill until after it had passed, and therefore had no opportunity of being heard before any committee of the Legislature.

It appears from these statements that the lot in question was originally purchased by the private subscription of Catholic Germans in San Francisco for the purpose of establishing a Roman Catholic Church, free to all German Catholics who might choose to attend. The promoters of this enterprise appear to have styled themselves the German Roman Catholic Building Association, and more recently have been known as the German Roman Catholic Congregation. Neither the "association"

nor the "congregation" have had any corporate or legal organization. When the lot was originally purchased, a deed was taken in the name of one of the contributors, named John P. Schaefer, in trust for the benefit of the congregation. On the thirty-first day of December, eighteen hundred and fifty-nine, Schaefer was authorized and directed to convey the property to the Catholic Archbishop of San Francisco, to be held in trust by him and his successors in office for the benefit of said congregation.

Embodied in the deed, and made a part of it, are certain resolutions adopted by the said congregation, clearly defining the trust. The material portion of the resolutions reads as follows:

"That John P. Schaefer is hereby directed and authorized to convey by deed of trust to Joseph S. Alemany, Roman Catholic Archbishop of San Francisco, all that lot of land in the City of San Francisco, (describing it,) in trust, that the same above described lot, and any building or buildings erected or to be erected thereon be used and enjoyed as a Roman Catholic Church for the German Congregation of the City of San Francisco, and to apply the rents, revenues, issues, and profits thereof to the religious uses and purposes only and exclusively forever, of the Congregation of Roman Catholic Germans of the City of San Francisco," etc.

The legal and constitutional questions presented are:

1. Is the trust, as expressed in the deed, a "contract" between the trustee and all the members of the congregation?
2. Is this a voluntary association of individuals who have contributed to the purchase of property for a public purpose, in such a way as to constitute it a charity?
3. Does the bill under consideration propose to change the character of the trust?

I am clearly of the opinion that property owned by a congregation, and used as a church and school, is a *charity*, which cannot be diverted from the use to which it was dedicated by those who aided in its purchase; nor can the property be disposed of except by the consent of all the beneficiaries of the trust, ascertained through a Court of equity. The deed of trust is a *contract*, and any Act of the Legislature authorizing a sale in the manner contemplated by this bill, would be violating the obligations of a contract, and therefore unconstitutional and void. The fact that a majority voting in favor of a proposition to sell, cannot be considered as giving the assent of the whole. Indeed, it may well be questioned whether the title could pass under the provisions of this bill, even if all present at a meeting called for that purpose were to vote in the affirmative. It seems to be a well settled principle of law, in regard to trusts of this character, that the property of such an association is pledged to the objects for which it was intended by the contributors, and cannot be diverted from them while those who remain are ready and willing to execute the public trust with which it has been clothed; nor can the majority bind the minority unless by special agreement.

Of the good faith of the parties seeking the passage of the bill referred to, I have no question; nor do I doubt that the Archbishop would scrupulously devote every dollar received as purchase money to its proper

use. Indeed, it may be for the best interests of the congregation that the property be sold and the funds reinvested. If so, a Court of equity must decide the question after giving a full hearing to both parties to the trust. No authority can be obtained by the passage of the bill referred to. The only effect would be to cause expensive litigation resulting in having the Act declared unconstitutional and void.

FRED'K F. LOW, Governor.

MEMORIAL

FROM THE

LEGISLATURE OF ARIZONA

IN THE MATTER OF THE

Boundary between Arizona and California.

MEMORIAL.

*To the Honorable House of Representatives and Senate of the United States,
in Congress assembled :*

Your memorialists, the Legislative Assembly of the Territory of Arizona, respectfully represent that by the treaty of Guadalupe Hidalgo, between the United States and the Republic of Mexico, ratified in eighteen hundred and forty-eight, the boundary line between the two Republics should consist of a straight line drawn from the middle of the Gila River, where it unites with the Colorado, to a point on the coast of the Pacific Ocean distant one marine league south of the southernmost point of the port of San Diego. That in pursuance of said treaty the boundary line was run by the Commissioners appointed by the two Republics for that purpose; that in running the line according to the said treaty the said boundary line crossed the Rio Colorado twice through a northern bend of that tortuous river—by which means a tract of land consisting of about one hundred and fifty acres, south of said bend, was thrown into the limits of the United States—thus leaving a small portion of the United States Territory beyond the Colorado River, which separated it from every other portion of their territory. That when California was admitted into the Union as a State in eighteen hundred and fifty, it was admitted with the same boundary on the south as declared in her Constitution that was specified in the said treaty of Guadalupe Hidalgo, and run by the Commissioners aforesaid, the river Colorado separating the small tract of land before specified from the remainder of the State.

Your memorialists further represent that the organic Act of the Territory of Arizona, approved the twenty-fourth of February, A. D. eighteen hundred and sixty-three, declared all that part of the Territory of New Mexico situated west of a line running due south from the point where the southwest corner of the Territory of Colorado joins the northern boundary of the Territory of New Mexico, to the southern boundary line of the Territory of New Mexico, should be and was erected into a Territorial Government to be called Arizona; that the boundary of New Mexico on the west, by the organic Act creating that Territory, approved September ninth, eighteen hundred and fifty, was the boundary line of the State of California, from the thirty-seventh parallel of north latitude south to the point of the Colorado River where said boundary begins—which was the line run by the Commissioners between the two Republics as aforesaid; that afterwards, by the Gads-

den treaty of eighteen hundred and fifty-four, the southern portion of the Territory of Arizona was acquired from the Republic of Mexico, attached to New Mexico by an Act of Congress of the United States, and the boundary run and fixed by a joint commission of the two Republics at an initial point on the Colorado, twenty miles below the junction of the River Gila with the Colorado. By this means the western boundary of Arizona runs from the thirty-seventh degree of latitude the whole length of the California boundary on the south, and beyond the line of that State on the Colorado River; that said small tract of land lies just below the junction of the River Gila with the Colorado; that it is in an important commercial point, and is the commercial landing place and business point for the Territory of Arizona on the lower Colorado; that it is opposite Fort Yuma, and remote from any civil government organized in California; that there are no police and civil regulations there; that it is essential and important to Arizona to have said tract of land annexed to its Territory for the purpose of forming a landing place and a commercial town; that it is of little importance to the State of California, and of vast consequence to Arizona to possess it; that if annexed to Arizona the benefit of civil government would be immediately extended over it from Arizona City, which lies adjoining it on contiguous territory, separated from it by an imaginary line—while the Colorado flows between the said tract of land and the other portions of the territory of the State of California.

Wherefore, your memorialists pray your honorable body to pass an Act by which the said tract of territory of the State of California lying south of Fort Yuma and the Colorado River, and between the Colorado River and the line of Arizona, be annexed to said Territory of Arizona; providing that the State of California, by an Act of her State Legislature, will relinquish all her right over said tract of land to the said Territory of Arizona.

That our delegate in Congress is hereby requested to use all honorable means in his power to secure the passage of said Act.

That his excellency, the Governor of the Territory of Arizona, is hereby requested to transmit a copy of this memorial to our delegate in Congress, also, a copy to the Governor of the State of California, with the request to forward such other information in his possession, in order that it may be laid before the Legislature of the State of California.

Approved November 3d, 1864.

W. CLAUDE JONES,
Speaker of the House of Representatives.

COLES BASHFORD,
President of the Council.

JOHN N. GOODWIN.

SEAL.

A true copy of the original, as on file in my office. Witness my hand and the seal of my office, given at Prescott, this sixteenth day of November, A. D. eighteen hundred and sixty-four.

RICHARD C. McCORMICK,
Secretary of the Territory.

REPORT OF INVESTIGATING COMMITTEE

ON THE

BOUNDARY LINE

BETWEEN

PLACER AND NEVADA COUNTIES.

In Assembly, March 16th, 1866.

E

REPORT.

MR. SPEAKER:—The undersigned committee, appointed to visit Placer and Nevada Counties, and take testimony in relation to the boundary between said counties, having visited the locality, beg leave to submit the following report:

Upon the testimony of Mr. Polly, a resident of the territory, we find that the strip or tract of country proposed to be segregated from Nevada County and attached to the County of Placer, is about eighteen miles in length, by an average of half a mile in width. There is a voting population of thirty-one persons residing on the tract of country proposed to be ceded. Mr. Polly further states that he is acquainted with all these persons, and that thirty of the thirty-one favor the proposed change. The reasons assigned by these persons, as stated by Mr. H. Polly, why the change should be made, are as follows:

First—That the residents of this section have always considered themselves citizens of the County of Placer, and until the year eighteen hundred and sixty-five have voted in and paid taxes to the County of Placer.

Second—They allege also that it is more convenient for them to visit Auburn, the county seat of Placer, than it is to visit the county seat of Nevada.

Third—That it is fifty miles by the nearest wagon road from the territory in dispute to the county seat of Nevada County, and by trail thirty-four miles. And as further reasons assigned by the witness Polly in favor of the proposed change, that the territory is isolated from the settled portion of Nevada County; that it extends along the northern boundary of Placer, and is bounded on the north by high and rugged mountains, destitute of habitation; that it is at least four miles due north from the northern boundary to the nearest habitation in Nevada County, and that the boundary line proposed to be established by the change would be natural and easily defined; also, that the amount of taxable property in the district is about ten thousand dollars, with a probable increase of one hundred thousand dollars within the next year, as the Central Pacific Railroad is located and will pass over about ten miles of the territory in dispute.

In rebuttal of the statement of Mr. Polly, Mr. Pearce, a resident of the district, makes the following statement:

"I am opposed to the change of the boundary line. I believe a majority of the residents desire no change. There are thirty-one voters in the district. We have always voted and paid our taxes in Placer County, until eighteen hundred and sixty-five. The territory in dispute has been assessed by the Assessors of both Placer and Nevada Counties. It will require but the construction of one mile of wagon road to connect the main road leading from Polly's Station to Auburn with the Bear Valley Wagon Road leading to Nevada City. It would then be about twenty-seven miles from Polly's Station to Nevada City by wagon road. After the construction of this road, I can see no advantages to be attained by being set over into Placer County, as we are fifty-five miles from Auburn, the county seat of Placer. Mr. Polly is better posted as to the wishes of the residents of the district than what I am."

This concludes all the testimony taken in the premises. The only difficult question of solution now is, whether a small district containing only thirty-one legal voters shall have the disposition or control of a large amount of taxable property, in which they have no pecuniary interest; but which is the property of a corporate body, liable for the taxes on said property, and which the masses of the tax payers of the County of Nevada claim an interest, as a source of revenue to the county.

This question we submit to the decision of this honorable body without any recommendation.

LUTTRELL.

We concur in the foregoing exhibit of testimony and suggestions, reserving the right to submit a report embracing other deductions therefrom.

DORNIN,
SEXTON.

ASSEMBLY CHAMBER,
Sacramento, March 22d, 1866. }

The undersigned concurs in the statements of testimony taken by the committee, as set forth in the report heretofore submitted; and begs leave to submit the following deductions in addition thereto:

First—The weather did not permit as full and thorough an investigation as the importance of the case demanded, and the committee were forced to be content with the testimony of the residents within reach, which, it will be observed, is directly antagonistical.

Second—The committee find that until within two years last past no question has arisen as to jurisdiction in said district, there having been no permanent inhabitants; that portion being considered of no value, and offering no inducements to settlers, it was not deemed necessary to survey and establish the boundaries of the two counties as defined by Act of eighteen hundred and fifty-one.

About two years since the projection of the Dutch Flat and Donner Lake Wagon Road rendered wayside taverns, or stations, necessary—and several persons located thereon. Those nearest the line were assessed in Placer County until eighteen hundred and sixty-five, when, it having been demonstrated that they were north of the line, they were

assessed in Nevada. To prevent all future conflict of jurisdiction, it is only necessary to authorize a survey to be made, and monuments erected at convenient points.

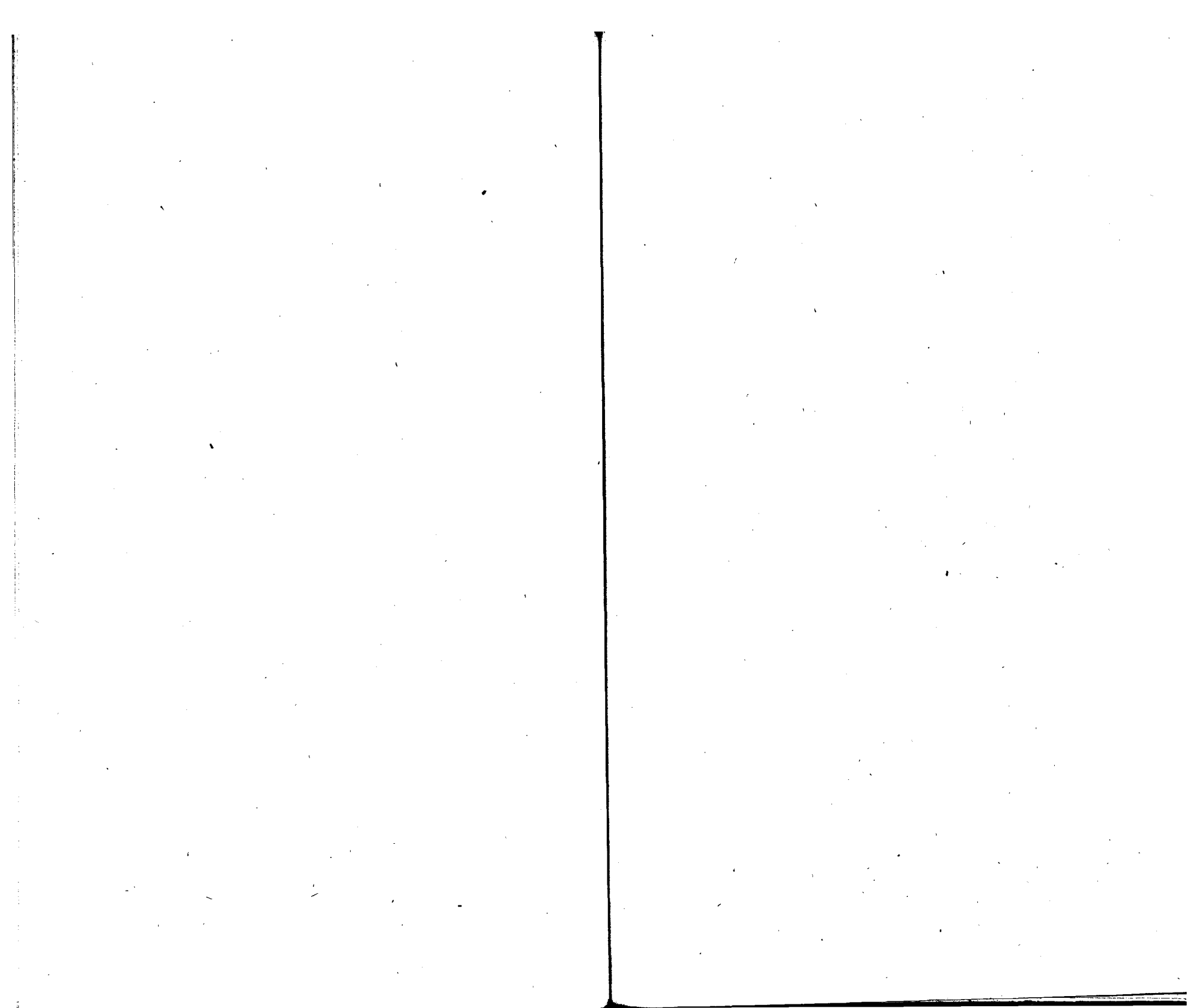
That the county seat of Placer County is more convenient of access than that of Nevada County, may be true in point of fact, but roads are being projected and constructed, which will soon render the argument based thereon futile; and no good reason is thereby presented why so large and prospectively valuable a portion of Nevada County should be segregated for the possible convenience of the few settlers thereon.

The committee were informed that a large proportion of the few inhabitants favored the change. The committee, however, visited but two settlers, and they expressed diverse opinions. If, however, all favored it, it presents no good argument why the rights and wishes of the entire people of Nevada County should be overlooked.

The real object of the proposed change of boundary is to secure to Placer County about ten miles of the Pacific Railroad which now traverses that portion of Nevada County, on the plea that Placer County has subscribed two hundred and fifty thousand dollars to the enterprise, and hence is entitled to receive all the benefits accruing therefrom. The committee do not deem this just ground for the attempt to seize upon that portion which, through the conformation of the country, passes through Nevada County.

The committee therefore recommend the indefinite postponement of the bill introduced by Mr. Sexton, of Placer.

DORNIN.



PETITION OF CITIZENS OF ALPINE COUNTY

FOR A

JUDICIAL DISTRICT

ON THE

EASTERN SLOPE OF THE SIERRA NEVADAS.

In Assembly, January 15th, 1866.

P E T I T I O N .

To the Honorable Legislature of the State of California:

The undersigned, citizens of Alpine and Mono Counties, respectfully represent that the territory embraced within those counties is larger than some of the small States of the United States; that within those counties there is believed to exist the richest silver mines in this State, and equal in richness and extent to any on the Pacific coast; that those mines are now being rapidly developed, and in consequence thereof a permanent population and business is rapidly increasing; that in consequence of such increase of population and business an increase of judicial facilities are greatly needed; that under the present judicial arrangement, but two terms of the District Court are held in each of said counties per annum; that owing to the general increase of business, we think that the public good requires that four terms of the District Court should be held in Alpine County in each year; that from the deep snows upon the mountains those counties are almost entirely cut off from the portions of the State on the west side of the mountains for nearly five months in the year, and it is not without very great expense and inconvenience that Judges residing on the west side of the mountains can hold the terms of their Courts in those counties for about one half of the year.

For the foregoing reasons we think that the public good requires that a judicial district be established on the east slope of the Sierra Nevada Mountains, embracing the above named counties; and we respectfully ask that a judicial district, to be known as the Sixteenth Judicial District, be so established.

N. C. Briggs,
William Miller,
W. J. Johnston,
D. K. Swim,
G. W. Mank,
C. H. Mank,
F. Mank,
E. F. Mank,
E. A. Courson,

J. O. Courson,
Louis Wichelhausen,
George P. Harrisee,
D. E. Riddell,
C. P. Pearson,
J. S. Powers,
Robert Thompson,
W. O. Hayes,
L. B. Fine,

Julius Zabel,
 J. G. Slaven,
 William H. Ryan,
 D. E. Swinerton,
 J. S. Adams,
 John Swinerton,
 B. Pilkington,
 Joseph Ballard,
 C. D. Herrick,
 J. A. Owens,
 L. E. Wahlberg,
 W. Priebatch,
 M. Marks,
 C. W. Dake,
 Thomas Ryan,
 John Bolts,
 J. A. C. Smith,
 David Watson,
 John S. Kelsta,
 N. Giell,
 B. F. Rathbern,
 G. B. Harsinger,
 Arden Ardens,
 Henry Eno,
 R. M. Folger,
 L. S. Greenlaw,
 Charles P. Goff,
 J. B. Scott,
 William Hyndman,
 Isaac Blum,
 Joseph Seely,
 H. Cook,
 William A. Johnson,
 N. D. Neven,
 C. A. LaGrane,
 J. A. Lance,
 Simon Newman,
 Joseph Uncapher,
 H. L. Parker,
 Sextus Shearer,
 J. A. Taggard,

SILVER MOUNTAIN.

J. B. Marshall,
 J. G. Plummer,
 Robert Patterson,
 J. P. Calhoun,
 Charles B. Gregory,
 John B. Pilkington,
 H. D. Scott,
 J. W. Scott,
 R. H. Ford,
 E. D. Egan,
 Moses Tibbs,
 William Kent,
 J. Sanquet,
 John A. Johnson,
 John Helyson,
 John Johnson,
 Lewis Gullickson,
 V. R. Hill,
 M. T. Moore,
 Thomas Brown,
 J. Titcomb,
 D. V. Gates,
 John C. Robinson,
 John Simpson,
 Alex. C. Folger,
 Henry Morris,
 J. T. Watkins,
 O. H. Allen,
 D. C. Dennis,
 J. S. Young,
 S. W. Griffith,
 L. E. Chevallier,
 H. T. Spencer,
 G. C. Compton,
 K. W. Green,
 John Devine,
 John Murphy,
 J. W. Barnes,
 R. Gelatt,
 J. L. Morgan,
 Peter Schram.

COMMUNICATION

FROM

GOVERNOR OGLESBY, OF ILLINOIS,

PRESIDENT OF THE

Lincoln National Monument Association.

COMMUNICATION.

STATE OF ILLINOIS, EXECUTIVE DEPARTMENT, }
Springfield, October 3d, 1865. }

To His Excellency F. F. Low,
Governor of California :

A resolution of the Board of Directors of the National Lincoln Monument Association, adopted at the last meeting, requires the President and Secretary of the association to make an appeal in behalf of the objects of the association to the Governors of the several States and Territories of the Union, and through them to the Legislatures and people of their respective States and Territories.

The purpose of this appeal is to bring officially to your notice, and to the notice of the people of your State, the organization of this association, and the objects we have in view, viz : to erect over the remains of Abraham Lincoln, late President of the United States, in Oak Ridge Cemetery, near the City of Springfield, Illinois, a suitable and enduring monument to his memory, and to request that you will in some way bring the subject generally to the notice of the people of your State; and, if consistent with your views, and you shall believe its importance and character will justify it, to especially call the attention of the Legislature of your State to the subject.

We do not deem it necessary to suggest any plan to you by which subscriptions may be raised, preferring to leave this matter to your own direction and control.

We will be pleased to correspond with you at any time upon the subject, and to give you any information or explanation that may be required. The National Lincoln Monument Association was formally organized on the eleventh day of May, eighteen hundred and sixty-five, at Springfield, Illinois, under an Act of the Legislature of our State, approved February twenty-fifth, eighteen hundred and fifty-nine. The articles of association under the provisions of that law have been filed in the office of the Secretary of State, and are now public records.

We have obtained from the City of Springfield a deed to about six acres of most beautiful grounds adjoining Oak Ridge Cemetery, accessible at all seasons of the year, with such a location and advantages as to make it in time one of the most lovely and enchanting spots upon earth.

O. M. CLAYES.....STATE PRINTER.

The remains of Mr. Lincoln are already temporarily entombed upon these grounds, from which they will never be removed except by consent of the association.

It is our intention at the proper time to consult the very best taste and talent of the country before selecting designs for the monument.

Since its organization the association has been chiefly controlled by the idea that voluntary donations would, in a reasonable time, secure the necessary funds to build the monument. In this way we have, chiefly from soldiers and sailors, and from Sabbath schools, and other similar benevolent and educational societies, and from private sources, received about fifty-three thousand dollars.

We are now impressed with the opinion that a solemn duty devolves upon us the necessity of inviting from a larger field assistance to enable us to carry out the original design, of erecting over the remains of Mr. Lincoln a monument which shall suitably represent his great name and high character, as well as the patriotism and dignity of the great nation he so faithfully served.

As time passes on other plans to do like honor to him will fail and be forgotten, having been supplanted by the all-engrossing requirements of passing events. Under these peculiar circumstances, *this* association—near his last resting place, in the city of his home, with his sacred remains in its keeping—feels that its relations to this sacred trust require us to spare no effort to give to this great work a national character, and certain and complete success.

As the object is a national one, and to honor the memory of a national man, endeared to the whole country by his sacrifices to preserve the national Union, we do not hesitate to appeal to the nation to aid us by reasonable subscriptions to build this monument.

We dislike to begin it with the sum now at our disposal; at least two hundred and fifty thousand dollars will be necessary to build the monument in the proper spirit, and consistent with the great character to be represented by it. In this spirit, with these views, and with this honorable purpose we appeal to you, Governor, and to the generous people of your State, to assist us to honor this good man, to assist his old friends and neighbors about his old home, where for so many years he was the joy and pride of all who knew him—now, that he is dead, to build over his resting place this lasting memorial to his great and acknowledged virtues, known by none better than they but loved by all who knew him—the friend of liberty, and the firm friend of his country, through all the days and years of a long and laborious life. Here his virtues show brightest; here his character was moulded; here he was first known to the world; here he received the highest honor given to mortal man; and here, in the midst of those old friends, beneath the soil of that country he served so well, he sleeps his last sleep; in this quiet city, in the very heart of his own State, let him rest for ever. It was his living and last wish. Here, too, let that monument be erected which cannot honor him, but which will serve in the long years of the future to mark the spot, and hold the ashes of this nobleman of nature sacred.

Again we appeal to the nation to aid us, and to your own noble State especially, to give the subject considerate attention and this association such encouragement as shall assure us that we may go forward with the great work before us, never despairing until the last stone is laid.

R. J. OGLESBY,
President.

CLINTON L. CONKLING, Secretary.

REPORT

OF THE

Assembly Committee on Internal Improvements,

ON

ASSEMBLY BILL No. 321,

AN ACT TO DEVELOP THE AGRICULTURAL INTERESTS AND TO AID IN
THE CONSTRUCTION OF A CANAL FOR THE PURPOSES OF IRRIGATION AND INLAND TRADE IN THE COUNTIES
OF COLUSA, YOLO, AND SOLANO.

F .

REPORT.

Mr. SPEAKER :—Your Committee on Internal Improvements, to whom was referred Assembly Bill No. 321, entitled an Act to develop the agricultural interests, and to aid in the construction of a canal for the purposes of irrigation and inland trade in the Counties of Colusa, Yolo, and Solano, have given the subject their most earnest attention, and beg leave to submit the following report:

The proposed Act authorizes R. J. Walsh, Jerome C. Davis, Andrew M. Stevenson, and their associates, to form a company for the construction of a canal from some point on the Sacramento River, near the county line of Colusa and Tehama Counties, to some point on the navigable waters of Cache Creek Slough, in the County of Solano; said incorporation to be known as the Sacramento Irrigation and Navigation Canal Company. The objects to be attained by said canal shall be the irrigation of the lands in said counties, the transportation of agricultural products, and the security from inundation of the swamp lands in the Sacramento Valley.

With reference to the first of the results proposed to be obtained by this canal, the committee have carefully examined the report of E. Goodrich Smith, of Washington, D. C., who has given the subject much attention, and from whose report we desire to submit the following extracts:

“A system of irrigation is nowhere conducted on so grand a scale as in this part of the British Empire (India.) Some of the canals are like mighty rivers, and a vast extent of country receives the benefit of their waters for agricultural purposes. The first canal dates back to the fourteenth century. The principal canals in India are those on the River Jumna West, of the Eastern Jumna, of the Sutlej, and of the Ganges. The whole length of the main lines of the Western Jumna Canal is four hundred and forty-five miles. The total area of the country traversed is three million seven hundred and eighty-four thousand three hundred and eighty-five acres; of this the irrigated portion is eight hundred and fifty-nine thousand nine hundred and two acres. In one district one half, in another one third, and in the great sterile tract of Hissar, one tenth is brought under the influence of the canals. These irrigated areas include all the villages using canal waters for different purposes; but of the land actually watered, there are only three hundred and fifty-seven thousand five hundred and one acres. The best watered district is the irrigated portion of Hissar, the chief towns of which in eighteen hundred and seven were literally without an inhabitant, and

in which the canal has called forth an active and thriving peasantry. The entire cost, including repairs, was only one hundred and nineteen thousand four hundred and seventy-four pounds. The amount of water rent from eighteen hundred and twenty was three hundred and fifty-one thousand seven hundred and fifty-three pounds sterling. The gross value in eighteen hundred and thirty-seven and in eighteen hundred and thirty-eight, on irrigated lands—the greater part would otherwise have been wholly unproductive—as given for the crops of the rainy season, was four hundred and five thousand one hundred and seventy-six pounds; for the crops of the cold season, nine hundred and fifty-seven thousand pounds; in all, one million four hundred and sixty-one thousand two hundred and seventy-six pounds; so that nearly one million five hundred thousand pounds was saved by the canal, of which one tenth, or one hundred and fifty thousand pounds, was paid to the government as land rental; the remainder supported, during a famine, five hundred villages. The returns of eighteen hundred and thirty-seven and eighteen hundred and thirty-eight to the government covered the whole cost of the canal, and left a surplus of nearly twenty-six thousand eight hundred pounds. Including other returns, the account stood thus: The total expenditure was three hundred and fifty-three thousand six hundred and sixty pounds sixteen shillings; the revenue amounted to four hundred and twenty thousand six hundred and seven pounds two shillings; leaving a surplus of sixty-six thousand nine hundred and forty-six pounds six shillings. The annual increase of the land revenue due to the canals of the Western Jumna is stated to be twenty-nine thousand four hundred and thirty-six pounds; and there has been added to the direct canal revenue sixty thousand pounds per annum; leaving a net income of forty-three thousand pounds, which on the capital invested gave thirty-six per cent. The excess of population is likewise very great on the irrigated above the unirrigated, being two fifths larger.

"The Eastern Jumna has a system of distribution canals, measuring five hundred miles. The annual increase of land revenue due to the canal is fourteen thousand nine hundred and sixty-five pounds. Adding to this the direct revenue of the canal, it is twenty-seven thousand pounds. The expenditure was eighty-one thousand four hundred and sixty pounds. Current expenses, eight thousand pounds. Net annual income, nineteen thousand five hundred pounds; yielding thus on the capital of eighty-one thousand four hundred and sixty pounds nearly twenty-four per cent.

"In summing up the benefits to be derived from the Grand Ganges Canal, eight hundred and ninety-eight and a half miles in length, the following are enumerated: It will add to the revenue three hundred and fifty thousand pounds per annum; protect from the risk of famine upwards of eleven million acres, inhabited by six million five hundred thousand souls, paying to the State one million eight hundred thousand pounds. In the event of the failure of rains, it will save agricultural property to the amount of seven million five hundred thousand pounds, and add to the increase of produce one million two hundred thousand pounds per annum."

We likewise find from the same authority, that in Piedmont the whole irrigated region is one million five hundred acres, covered by a network of canals more than one thousand two hundred miles long. The entire length of the canals of Lombardy is four thousand five hundred miles, irrigating over two million of acres. In the entire valleys of the Po,

Piedmont, and Lombardy, there is an increased rental of eight hundred and thirty thousand pounds sterling per year, for an expenditure of forty million pounds sterling; and the progressive increase in population for the irrigated districts is two hundred and seventy-eight one thousandths per cent; while for the unirrigated districts it is only one hundred and seventy-four one thousandths per cent. In the Motara and Vigano districts there was no regular culture, the population was scanty and poor, and their industry and internal commerce languishing. Now, as irrigated, it has become richly productive, and one of the most densely populated regions in Europe.

From the parliamentary returns of England in eighteen hundred and sixty-four, the extent of land under the title of irrigated meadows amounted to one million two hundred and ninety-two thousand three hundred and twenty-nine acres, and several meadows, once arid and worthless, by flooding with water have risen to an enormous value, and are stated to be annually let by public auction at prices varying from seventy-five to one hundred and sixty dollars per acre.

The amount of land which would be irrigated by the proposed canal would, at the very lowest estimate, amount to six hundred and forty thousand acres, and the increased value of the same would certainly amount to twelve dollars per acre—making a gross increase of seven million six hundred and eighty thousand dollars to the taxable property of the State—which, at the present rate of taxation, would yield an annual revenue to the State of eighty-eight thousand three hundred and twenty dollars.

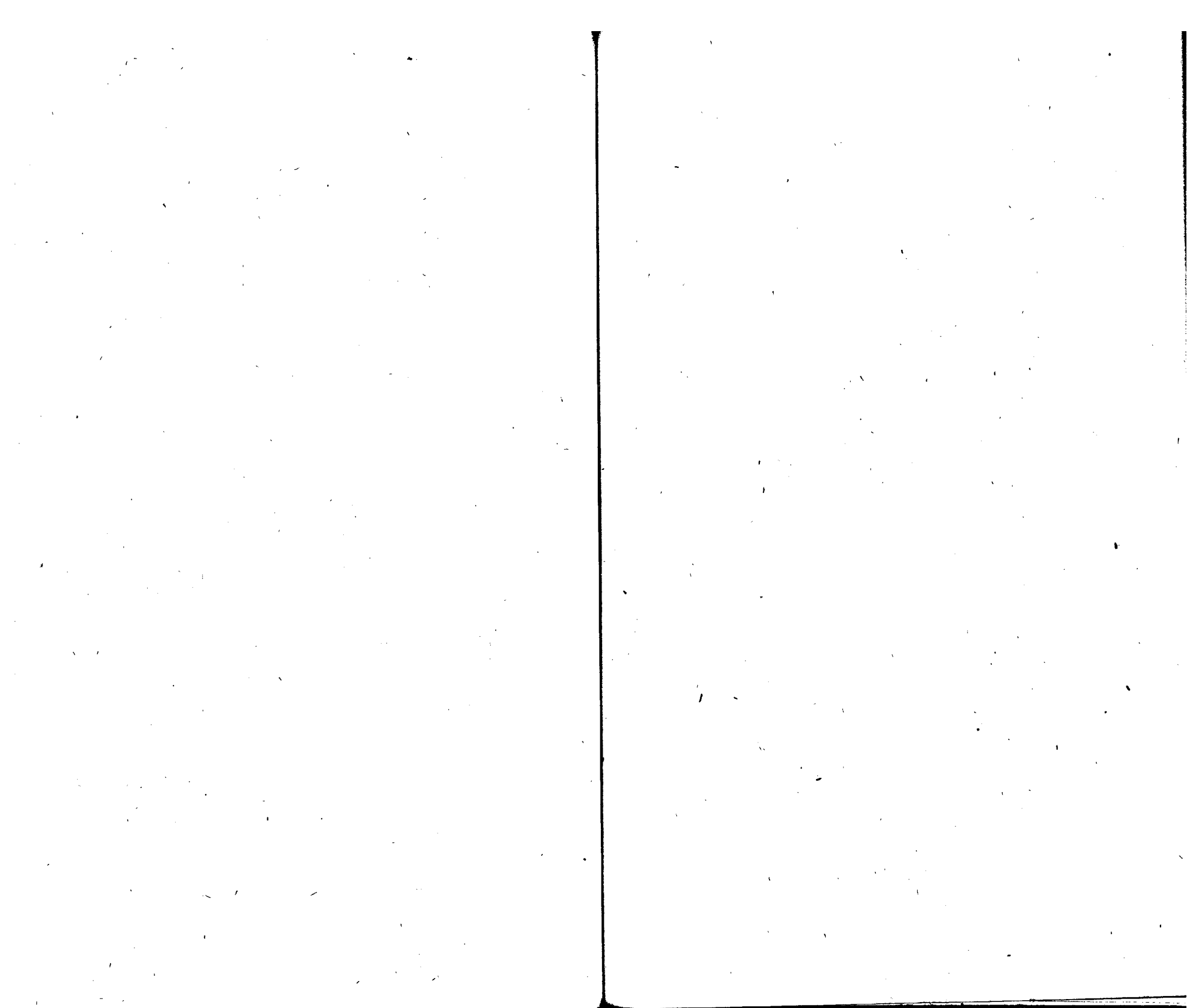
As to the second of the results to be obtained by this canal, viz: the transportation of agricultural products, it seems hardly necessary to call your attention to the fact that transportation can be had much cheaper by canal than by any other means now in use. The Erie Canal of New York State is an example which fully confirms that statement—running, as it does, in opposition to one of the best constructed and managed railroads in the United States, its business has not been decreased since the construction of said road; but, on the contrary, has increased from year to year much beyond the most sanguine hopes of its originators, and adding more and more each year to the revenue of the Empire State.

The last of the objects to be gained, viz: the security from inundations of the swamp lands in the Sacramento Valley, must be palpable to any person who will give the subject a moment's attention. In time of high water it will form an extra channel for the relief of the overburdened river, and if it does not succeed in carrying off the surplus water, will certainly tend greatly to that result.

This Act merely provides that the State shall expend the sum of ten thousand dollars for a survey and maps of the proposed route. Your committee have amended the same by making the sum eight thousand dollars—for which we think competent engineers will undertake the same, and which is certainly as low as the work can be done. This sum is to be expended under the direction of the Governor, Attorney-General, and Surveyor-General, and is not to be paid until the approval of the maps and plans—thus securing a reliable and impartial survey of the proposed canal, and giving to the same an official character which will guarantee to the settlers along the proposed route that their rights will not be encroached upon.

We therefore recommend that the bill as amended may pass.

KIDDER, Chairman.



REPORT

OF A PORTION OF

THE SAN FRANCISCO DELEGATION

RELATIVE TO

ASSEMBLY BILL NO. 180,

AN ACT FOR THE RELIEF OF T. A. BRADY.

REPORT.

SACRAMENTO, March 2d, 1866.

Mr. SPEAKER:—We the undersigned members of the San Francisco Delegation, to whom was referred Assembly Bill No. 130, an Act for the relief of T. A. Brady, beg leave to submit the following report:

We would respectfully represent that the said T. A. Brady was editor and proprietor of a newspaper published in San Francisco, known as the *Monitor*; a disunion sheet, and the organ of the sympathizers with secession in this State; one who made it a duty to vilify the government of our nation during the dark hours of rebellion. On the receipt of the news of the assassination of our late President, Abraham Lincoln, the feelings of the loyal people of the City of San Francisco, and the whole State, were worked up to the highest state of excitement. That feeling found relief in destroying the property of one who by his course had helped to build up the sentiment which culminated in so foul a murder. He is now an applicant for relief before your honorable body; and should he succeed in obtaining it, it will be the signal for numerous applications of the same character.

In view of these facts, and as a duty we owe to the loyal people of San Francisco, and also to ourselves, we recommend that Assembly Bill No. 130, an Act for the relief of T. A. Brady, be indefinitely postponed.

SAWYER,
DUTTON,
CLAYTON,
BOWMAN,
BUGBEE,
TUBBS,
DODGE,
WIGGIN.

MINORITY REPORT

OF THE

SENATE COMMITTEE ON CORPORATIONS

RELATIVE TO

SENATE BILL No. 47,

AN ACT TO PROVIDE FOR THE CONSTRUCTION OF A TELEGRAPH LINE IN AND
THROUGH THE STATE OF CALIFORNIA, BETWEEN
THE ATLANTIC AND PACIFIC.

MINORITY REPORT.

MR. PRESIDENT :—The undersigned, two of the five members composing the Senate Committee on Corporations, beg leave to make the following report as to Senate Bill No. 47 :

On Wednesday evening of last week, being the time fixed finally for that purpose, three lawyers appeared before the committee to submit legal arguments for and against the passage of the said bill. And the question was at once submitted, that inasmuch as the objections to the passage of said bill were exclusively of a legal nature, that they would like to argue the matter before a committee composed exclusively of lawyers; and that if it could be referred to the Judiciary Committee, they would remain in this city to argue it the following evening before said committee, if they could then be heard; that no strenuous objections were made to such reference, except on the ground of delay; that there were present four members of said Committee on Corporations, and no more; that two of said members, after becoming convinced that no opposition was urged to the passage of said bill, except upon legal grounds, voted in favor of the immediate reference of said bill to the Senate Judiciary Committee, and the other two of said members voted against such reference; and thereupon it was decided the committee should hear the counsel concerning the legal objections to the passage of the bill. That legal arguments were then made to the committee of three hours in duration, and involving decisions of Courts and legal questions only; that it appeared on said argument that the California Telegraph Company claim a special privilege granted to them by the Legislature of this State in eighteen hundred and fifty-two, in order to encourage the introduction of a telegraph between the main cities of this State, viz: Marysville, Sacramento, Stockton, San José, and San Francisco; (See Statutes of eighteen hundred and fifty-two, page one hundred and sixty-nine;) that said exclusive privilege to telegraph between said cities in this State was given for fifteen years only, and that said time will expire within fifteen months from this time.

It was admitted by all parties that if said Act of eighteen hundred and fifty-two did grant exclusive privileges to said company to erect telegraph offices in said cities for fifteen years, that it is a vested right in the company, and the Legislature cannot lawfully take it away. But it

was insisted by the advocate in favor of said Bill No. 47, that said Act of eighteen hundred and fifty-two does not grant an exclusive privilege, but only such privileges as may also be granted to other companies at any time. And it was claimed by the opponents of said bill that the very question of said Act granting an exclusive privilege, and of that privilege being validly and constitutionally conceded by the Legislature, has been fully adjudicated and settled in favor of the present California Telegraph Company by the judgment and decision of the Supreme Court of this State, in the case of the California State Telegraph Company v. The Alta Telegraph Company, (22 Cal. Rep., p. 398, etc.)

And it was further represented on said argument, and not denied, that the franchise asked for in Senate Bill No. 47, is in behalf of a foreign corporation organized and owned in New York; and that if any favors are to be asked they should not be conceded to a foreign corporation at the expense of a corporation belonging to our own citizens. And it was moreover represented, and not denied, that the exclusive privileges enjoyed by the old company in the cities before named, does not interfere at all with the establishment of the new overland telegraph from New York to San Francisco. It only interferes with the new company doing business between the aforesaid cities during the period of only fifteen months to come, which concludes the exclusive privilege granted to the company of Californians by this Legislature.

In consideration of the fact that the California company has the exclusive privilege for only fifteen months longer time to establish and use telegraphic stations between the cities before named, and of the fact that said privilege does not prevent the foreign company from establishing and working their overland telegraph just as rapidly as they choose, their efforts to take away, or to impair the vested and exclusive privileges of the California company between said cities, is not only wrong in itself, but wholly unnecessary, if their object be only to promote the public convenience by establishing another line. And if it be not their object and design to interfere with the rights of a company already long established, the general laws of this State give the new company all the privileges necessary.

In fact, it appears plain to the undersigned that the object of the said Senate Bill No. 47, is rather to obtain the aid of this Legislature to inflict a blow upon the old company than to obtain the right to establish an overland line which they already fully possess. The undersigned therefore recommend that said bill be rejected.

SHAW,
TUBBS.

REPORT

OF THE

Select Committee of the Assembly

ON THE

EXPLOSION OF THE "YOSEMITE."

G

REPORT.

SACRAMENTO, February 10th, 1866.

MR. SPEAKER :—Your committee, appointed by resolution of the Assembly, to examine into and report upon the causes of the boiler explosion on board steamer "Yosemite," in October last, have had the matter under consideration, and have examined a number of witnesses.

Messrs. Bemis, (United States Inspector of Hulls and Boilers,) Coffee, and Aitken, (boiler makers,) and Baurhyte, Chief Engineer of steamer "Yosemite," were personally examined, and the documentary evidence before the Coroners' juries of Sacramento and Solano County has been critically examined.

Besides such examination of persons and papers, your committee, or a part thereof, Messrs. Eager, Kidder, and Wilcox, made personal examination of the boiler, finding the flues thereof in excellent order, the shell only being worn and apparently oxidized.

The evidence of Mr. Coffee shows that the Steam Navigation Company always order for their boats the best material, and that the iron in the exploded boiler was heavy one-quarter Number Three, Thornecroft, and the best in the market at the time. Also, that boilers made of the same iron are now in use, having run eight or nine years.

The evidence of Mr. Bemis shows that five months prior to the explosion he examined the boilers of the "Yosemite," and subjected them to a cold water pressure of fifty-eight pounds to the square inch, and issued his certificate allowing thirty-five pounds of steam to be carried.

He also gives, as his opinion, the cause of the explosion to be the corrosion or oxidization of the iron.

Mr. Aitken's testimony corroborates that of Mr. Coffee, and further says that one boiler of his manufacture from same brand of iron has run ten years.

Mr. Baurhyte, Engineer of the boat, swears that he had but twenty-seven pounds of steam at time of explosion, and four gauges of water in boilers, which was corroborated by the other witnesses who gave the boiler a personal examination; also, that he has been a practical engineer for eighteen years last past, and has never before met with an accident.

The testimony of all the witnesses respecting Mr. Baurhyte is, that he is a truthful, prudent, and competent engineer.

Among the witnesses a difference of opinion seemed to prevail as to injury done by testing boilers by hydrostatic pressure.

The theory advanced by Mr. Wiard, of New York, and published in the *Commercial Advertiser* on the third of November last, is fraught with interest to all classes, from the assertion that explosions are not due:

First—To the direct pressure of steam; nor,

Second—To the decomposition of steam, giving it the quality and character of an explosive gas; nor,

Third—To the overheating of the boiler plates; nor,

Fourth—To the increased pressure of steam from injecting water upon heated places after the water has been low for a previous time; nor,

Fifth—To the projection of a large amount of "solid water" with momentum, against the shell of the boiler, when the pressure is received suddenly from the surface; nor,

Sixth—To the mysterious action of electricity; nor,

Seventh—To a new sudden increase of steam from the overheating of steam, plates, and stays, upon the surplus heat being communicated to the water; but to the unequal expansion of the boiler plates, between the parts above and below the surface of the water at the time of the explosion, which surface might be at the ordinary water line, or lower, when the water was foaming.

What was advanced at that time as a theory, has since been confirmed by experiments on board the Hudson River steamer *St. John*, and Mr. Wiard concludes that the certain effect of such expansion and contraction in iron plates, is to permanently weaken them; and such is the unanimous opinion of your committee after hearing the evidence of experts before them.

In regard to testing boilers by hydrostatic pressure, Mr. Wiard says:

"When the cold water test is applied, the sheet is in a state of initial rest, and its whole strength resists the pressure of cold water from within the boiler; thus," he remarks, "it is easy to see why this boiler (the *St. John's*) withstood the Inspector's pressure of fifty-four pounds, and afterwards gave way to the elastic pressure of steam at twenty-eight pounds. The water test does not provide against unequal expansion."

Mr. Wiard further asserts that a remedy is possible and practicable, and that instead of charging boiler makers with fraud, and want of skill, and Inspectors, engineers, and firemen with carelessness or inefficiency, the remedy should be applied, viz: equalizing the temperature throughout the boiler, which corrects the whole difficulty and avoids the danger.

Upon the suggestion of Mr. Bemis, your committee would recommend that Congress be memorialized to lower the standard of steam as now used in high pressure boilers, at least twelve per. cent, feeling assured that greater security to life and limb would thereby be afforded.

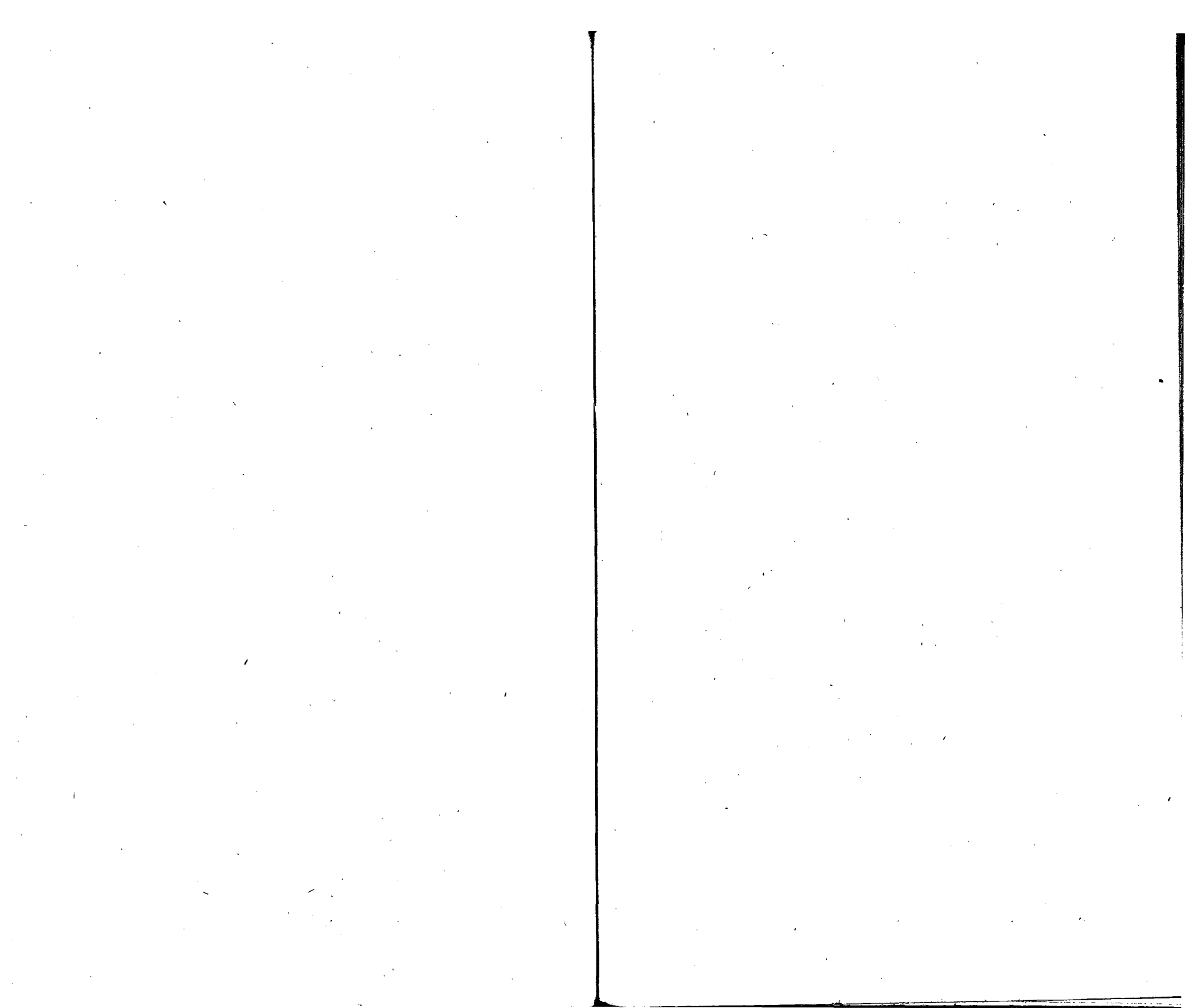
Your committee also unanimously recommend the passage of the bill introduced by Mr. Clayton, of San Francisco, relative to the use of steam in stationary high pressure boilers, and it is their opinion the law should be made general.

Unless the theory of Mr. Wiard is correct, the only conclusion to which your committee can arrive touching the explosion of the

"Yosemite" is, that the explosion, with all its attendant misery, is owing to some cause in nature, by reason of chemical action, which is as yet hidden from us, for we find that the company and the officers of the boat are free from blame, and that every precaution has been used by both to guarantee to travellers the most ample security to life and limb.

All of which is respectfully submitted.

THOS. EAGAR, Chairman,
JOHN S. KIDDER,
J. W. WILCOX,
THOS. HANSBROW,
CHAS. F. REED,
JOHN D. GOODWIN,
CHAS. CLAYTON.



COMMUNICATION

FROM THE

MINERS' CONVENTION

TO THE

SENATE OF CALIFORNIA.

COMMUNICATION.

SACRAMENTO, January 20th, 1866.

To the Honorable the Senate of the Sixteenth Session of the State of California :

At the Miners' Convention, held in this city on the sixteenth and seventeenth of January, the following action was had :

Resolved, That this Convention recommend the immediate establishment of a College for the benefit of agriculture and the mechanic arts, the first great leading objects of which shall be the development of the mining and agricultural resources of the State by the practical and experimental teaching and illustration of such arts and sciences as will best contribute to these objects.

Resolved, That we recommend that the necessary steps be taken by the Legislature for the location and entry, in the name of the State, of the one hundred and fifty thousand acres of land donated by the General Government for the endowment of such College ; and that when a title in the State shall have been secured that the same be sold and the proceeds invested as such endowment.

Resolved, That we approve of the use of all the proceeds and interest thereon of the seventy-two sections of land donated to the State for a seminary of learning, as a part endowment of a College for the above named purposes.

Resolved, That to secure a fair organization, location, and management of said College as between the mining and agricultural interests of the State, the Board of Regents, or Directors, in whose hands these duties shall be intrusted, shall be composed of persons, one half of whom shall be well acquainted with the practical and theoretical operations of mining, and the other half of whom shall be agriculturists—and the relation shall never be changed.

Resolved, That a committee of five be appointed by the Chairman of this Convention—being one to act with a similar committee to be appointed by the next annual meeting of the State Agricultural Society, to form a plan for the organization of said college, and propose the same to the Legislature and solicit its enactment into a law.

M. D. BORUCK, Secretary.

MAJORITY REPORT

OF THE

Senate Committee on State Library

RELATIVE TO

SENATE BILL No. 286,

AN ACT FIXING THE SALARIES OF THE STATE LIBRARIAN AND DEPUTY
STATE LIBRARIAN.

MAJORITY REPORT.

Mr. PRESIDENT :—The following are some of the reasons why a majority of your Committee on State Library recommend the passage of Senate Bill No. 286, an Act to fix the salaries of the State Librarian and the Deputy State Librarian :

By the provisions of the present law, the Librarian receives two thousand five hundred dollars salary. He is authorized to appoint a Deputy, but no provision is made to pay the salary of the Deputy. An appropriation of one thousand two hundred dollars has been heretofore made for the pay of Porter. Mr. Hart has drawn that salary, and has acted as Porter, Clerk, and Deputy.

This bill provides that Hart shall receive one thousand eight hundred dollars as Deputy, and the appropriation to be made hereafter, not one thousand two hundred dollars for a Porter in the State Library, but one thousand eight hundred dollars as Deputy Librarian.

There is no law authorizing the appointment of a Porter in the State Library, or in any other State office ; but when appropriations are made for Porters, they are appointed and draw the money appropriated.

The bill does not increase the number of employes in the Library, but merely fixes the salary of Hart at one thousand eight hundred dollars. That is the smallest sum received by any clerk in any State office.

The Governor's Private Secretary receives two thousand four hundred dollars; the Governor's Clerk receives one thousand eight hundred dollars. The clerks in the offices of the Secretary of State, the Controller, the Treasurer, the Surveyor-General, and the Superintendent of Public Instruction, each receive one thousand eight hundred dollars salary.

The Stamp Clerk in the Controller's office, and the Stamp Clerk in the Secretary of State's office, receive each two thousand four hundred dollars.

The Secretary of the Supreme Court receives one thousand eight hundred dollars per annum.

The duties of the clerks who receive one thousand eight hundred dollars, and two thousand four hundred dollars, are not more difficult to perform, or more onerous, than the duties of Deputy Librarian.

The bill provides that the Librarian shall receive three thousand dollars salary. This sum is the lowest salary paid any other State officer. The majority of the State officers receive four thousand dollars. The

Secretary of State, the Controller, the Treasurer, the Attorney-General, and the Supreme Court Reporter, receive, each, four thousand dollars. The Surveyor-General receives two thousand dollars as Surveyor-General, and two thousand dollars as Register of the Land Office.

The Resident Physician of the Insane Asylum receives three thousand five hundred dollars, and his assistant two thousand five hundred dollars, and both have their house rent, furniture, provisions, fuel, and lights furnished by the State.

The Superintendent of Public Instruction, the Adjutant-General, and the Harbor Commissioners, receive each three thousand dollars.

The clerk of the Harbor Commissioners, a clerk in the Controller's office, the clerk in the Secretary of State's office, and in the Surveyor-General's office, receive two thousand four hundred dollars, or within one hundred dollars as much as the State Librarian.

The State Library is kept open during the session of the Legislature from twelve to fifteen hours, not excepting Sunday; and when the Legislature is not in session, it is kept open then longer than any other State office; and during the term of the Supreme Court it is open never less than twelve hours.

Nor are the duties of the Librarian confined to keeping the Library open, and the books in their proper places on the shelves. Books received are to be numbered, registered, and catalogued. Lists of books for purchase are to be made by a careful examination of publishers' catalogues; inquiries of lawyers and others about the decisions of the Supreme Court of this State and other States on law points, and also as to the law of other States in particular cases, are to be answered, which sometimes require several days of investigation.

A large correspondence with the libraries of every State of the Union and foreign countries, which has within the last few years become somewhat extensive, must be carried on by the Librarian himself.

The office of Librarian is as important as any other State office. The duties require the constant attention of the Librarian; and there is no reason why he should not receive as much as is paid to other officers; and this bill provides for the smallest salary paid.

The Librarian's salary was fixed in eighteen hundred and sixty-one at two thousand five hundred dollars. At that time other State officers received three thousand five hundred dollars, which has since been increased to four thousand dollars; and this bill provides only for a corresponding increase in the salary of Librarian.

WRIGHT, Chairman.

REPORT

OF THE

ASSEMBLY JUDICIARY COMMITTEE

ON THE

Governor's Veto Message of Assembly Bill No. 41,

AN ACT TO CHANGE THE NAME OF THE PACIFIC ACCUMULATION LOAN COMPANY, AND AUTHORIZE IT TO PURCHASE CERTAIN REAL ESTATE.

H

REPORT.

MR. SPEAKER :—The Judiciary Committee have considered the Governor's objections to Assembly bill No. 41, an Act to change the name of the Pacific Accumulation Loan Company, and authorize it to purchase certain real estate.

By the bill it is proposed to authorize the corporation to change its name, and by the second section it is proposed to confer power (with the consent of not less than two thirds of its stockholders) to purchase a lot and building, or purchase a lot, and to erect a building thereon, in which to carry on the business of the corporation—the cost of which not to exceed two hundred and fifty thousand dollars. The corporation was formed under the provisions of "an Act to provide for the formation of corporations for the accumulation and investment of funds and savings."

There can be no question but that a corporation may be authorized by law to change its name; and the first section of the bill under consideration authorizing a change of the name, and prescribing the manner of effecting that object, would be unobjectionable. The authority to confer by special Act upon a corporation organized under a general law powers not granted by such general law, and which cannot be exercised or enjoyed by other corporations formed under the same law, is at least questionable.

The law under which the corporation was formed in this case became part of the contract between the stockholders, and that law provides that the real and personal estate which it shall be lawful for any such corporation to purchase, hold, and convey, shall be: first—the lot and building in which the business of the company may be carried on; *provided*, that the cost of the same shall not exceed one hundred thousand dollars. (Section 13.) All companies formed under this Act are restricted by this provision. It is proposed by the second section of the bill to authorize this corporation to purchase and hold real estate and building in which to carry on its business, costing two hundred and fifty thousand dollars. If this power can be conferred by special Act, it is difficult to perceive why the same Act should not provide that the corporate powers of the company might be exercised by a less number of Directors than is required by the general law, or increase or restrict all or any of the powers, duties, and liabilities of the said corporation; in effect, accomplishing indirectly what could not be done directly.

Corporations may be formed under general laws, but cannot be created by special Act. (Section 31, Article IV, of the Constitution of this State.)

Without stating other objections which might be urged against the bill, the committee deem the facts stated sufficient in support of the objections to the bill set forth in the Governor's message.

The committee therefore respectfully recommend that the Governor's veto be sustained.

BROWN, Chairman.

COMMUNICATION

FROM THE

CONSUL OF THE MEXICAN REPUBLIC,

RESIDENT IN SAN FRANCISCO,

TO

GOVERNOR FRED'K F. LOW.

COMMUNICATION.

Consulado de la Republica Mexicana, en San Francisco :

SACRAMENTO, Febrero 15 de 1866.

El infrascrito Cónsul de la República de México en San Francisco, tiene el honor de dirigirse con toda la consideracion que debe, á S. E. el Sr. Gobernador del Estado de California, para que se sirva dar á la Cámara de Representantes en nombre del Gobierno del infrascrito, las mas espresivas gracias, por las muestras de simpatia que en la sesion de ayer espresaron los dignos Representantes de este Estado en favor de la República de México, atacada por los esbirros de Napoleon Bonaparte. La manifestacion que tuvo lugar ayer en la Cámara, viene á ser una nueva prueba de la opinion general de esta gran Republica en la cuestion Mexicana.

En lo particular, el infrascrito Cónsul, no tiene palabras con que espresar su agradecimiento por el alto honor que le dispensó la Representacion del Estado de California, honor que recordará siempre como uno de los mas grandes que ha recibido.

El infrascrito Cónsul aprovecha esta ocasion para asegurar á S. E. el Sr. Gobernador y á los Sres. Representantes su distinguida consideracion y aprecio.

JOSÉ A. GODOY.

A. S. E. el Sr. Gobernador del Estado de California, Sacramento.

REPORT

OF THE

Volo, Napa, Lake, and Sonoma Delegations

ON

ASSEMBLY BILL No. 249,

AN ACT TO ESTABLISH THE COUNTY SEAT OF LAKE COUNTY.

REPORT.

MR. SPEAKER:—The delegation to whom was referred Assembly bill No. 249, entitled an Act to establish the county seat of Lake County, with a petition and remonstrance from the citizens of said county, have had the same under consideration, and beg leave to make the following report:

Your committee find that the Town of Lakeport is the present county seat of said county; that the bill under consideration provides that the Town of Lower Lake shall hereafter be the county seat; that the petition for the removal asks for the passage of this bill, or a bill to submit the question to the qualified electors of said county; also sets forth that the Town of Lakeport is in the northwest corner of said county, and but six miles from the Mendocino County line, and only twelve or fifteen miles from the northern line of said county—and contains three hundred names, purporting to be legal voters.

The remonstrance sets forth that the Town of Lakeport "is as near the geographical centre as is possible, without being in the lake itself—which, with its surrounding valleys, is seen in its greatest beauty and extent, enchanting all beholders, and attracting travellers from all sections; that the rich valleys, and wide spread pastures are permanent, and will endure through all time." This contains about three hundred names, also purporting to be legal voters—making about six hundred names to both petition and remonstrance.

We find by reference to a sworn statement of the votes cast at the last election, that only four hundred and eighty-nine votes were polled in the entire county. Therefore, in view of the discrepancies in the statements in the petition and remonstrance, and the number of names as compared with the statement of the whole number of votes polled at the last election, and the difference in opinion of the committee respecting the permanency of wide spread pastures that will endure through all time, the delegation declined to take action, and report the same back without recommendation.

REED, for the Delegation.

ASSEMBLY

REPORT

OF THE

ASSEMBLY JUDICIARY COMMITTEE

RELATIVE TO

VARIOUS BILLS.

Made to the Assembly, February 20th, 1866.

REPORT.

MR. SPEAKER:—The Judiciary Committee, to whom was referred Assembly bill No. 134, an Act to amend an Act entitled an Act to fix the compensation of the District Attorney of the County of Contra Costa, approved February sixth, eighteen hundred and sixty, have had the same under consideration, and respectfully report it back to the Assembly, with a substitute, and recommend the passage of the substitute;

Also, Assembly bill No. 331, an Act to repeal Acts concerning official bonds, which they recommend do not pass;

Also, Senate bill No. 180, an Act to legalize and provide for the collection of delinquent taxes in the County of Stanislaus, and recommend its passage;

Also, Assembly bill No. 262, an Act entitled an Act to authorize the sale and disposal of property in certain cases by married women, and to limit their liability upon their covenants, and report it back, with amendments, and recommend the passage of the same as amended;

Also, Assembly bill No. 239, an Act to amend an Act to legalize and provide for the collection of delinquent taxes in the counties of this State, approved May sixteenth, eighteen hundred and sixty-one, and report it back, with a substitute, and recommend the passage of the substitute;

Also, Assembly bill No. 360, an Act to amend an Act entitled an Act to amend an Act entitled an Act concerning the Courts of justice of this State and judicial officers, approved April twentieth, eighteen hundred and sixty-three, approved March twenty-fourth, eighteen hundred and sixty-four, and report it back, with a substitute, and recommend the passage of the substitute;

Also, Assembly bill No. 340, an Act to amend an Act entitled an Act to amend an Act entitled an Act concerning Courts of justice of this State and judicial officers, approved March twenty-fourth, eighteen hundred and sixty-four, and report it back, with a substitute, and recommend the passage of the substitute;

Also, Assembly bill No. 320, an Act supplemental to the Criminal Practice Act of this State, and report it back, with a substitute, and recommend the passage of the substitute;

Also, Assembly bill No. 102, an Act supplementary and amendatory to an Act concerning partnerships for mining purposes, approved April

fourth, eighteen hundred and sixty-four, and report it back, with amendments, and recommend the passage of the same as amended.

Also, Assembly bill No. 342, an Act relative to the office of District Attorney of the County of Amador, and report it back, and recommend that it be referred to the Amador delegation;

Also, Assembly bill No. 341, an Act to amend an Act to regulate the fees of certain officers in Amador County, and recommend that it be referred to the Amador delegation;

Also, Assembly bill No. 201, an Act concerning unincorporated mining companies when there is no written contract, and recommend that it do not pass, for the reason that the substance of the bill is embraced in the aforesaid Assembly bill No. 102, as amended by the committee;

Also, Assembly bill No. 41, an Act to change the name of the Pacific Accumulation Loan Company, and authorize it to purchase certain real estate; upon further consideration and investigation of the subject matter contained in this bill, we have become convinced of the correctness of the report heretofore made in the premises, and adhere to the same.

BROWN, Chairman.

MINORITY REPORT

OF THE

ASSEMBLY JUDICIARY COMMITTEE

ON

SENATE BILL No. 23.

REPORT.

Mr. SPEAKER :—We, the undersigned members of the Judiciary Committee, to whom was referred Senate bill No. 23, beg leave to make the following minority report concerning the same:

Sections two, three, four, and five of said Act invest the County Clerks and County Assessors of this State with judicial powers, making them the sole judges of the qualifications of electors. Further, that the Act makes no provision for the punishment of either Clerk or Assessor for any abuse of the powers conferred by the Act. We are of the opinion that an Act conferring any power or franchise should provide a remedy for the abuse of those powers by unprincipled men; hence our opposition to the bill.

The Act discriminates between the native and foreign born citizen. Section nine of the Act reads as follows: "The Assessor and County Clerk shall require satisfactory proof of citizenship on the part of all persons not known to them to be natural born citizens of the United States, before admitting them to registration. Such proof may be given by authentic documents, or by the testimony on oath of any person known to the said Assessor or Clerk to be a native born citizen." We believe this section to be unjust in its provisions. We do not see on what good grounds the question of veracity should be based on the nativity of the affiant or witness. This section disqualifies any person from giving testimony unless he be a native born American. Many thousands of the naturalized citizens of this State have lost their papers by fires and other causes. Now, how is it possible for every foreign born citizen to produce native born witnesses to prove that the applicant obtained his papers in the City of New Orleans, or Mobile, in the year eighteen hundred and forty or eighteen hundred and fifty-five? How many thousands of the records of States and counties have been destroyed by the ravages of the late war? We can support no bill that discriminates between citizens on account of their nativity. Native born Americans are citizens by accident, while the foreign born citizen becomes so by choice.

The Act disqualifies all persons from giving testimony in any proceedings had under the provisions of this Act, unless the witness be a householder, virtually establishing the damnable doctrine that wealth is the standard of veracity. We believe that all citizens are equal before the law; that

the poor man's testimony is entitled to as much weight as the rich, although he may not be a householder, and so fortunate as his fellow man who is the lord of princely mansions. Again, the law is unjust because it compels legal voters residing at great distances from the county seats of their respective counties, at great expense to travel to the county seat to establish the right to have their names recorded in the Great Register. One hundred and fifty voters of Siskiyou County reside not less than two hundred and fifty miles from their county town. These are disfranchised by the provisions of this Act, unless at great expense and inconvenience they travel five hundred miles to preserve to themselves the right of suffrage. This is but one of the many instances of like character which might be cited as reasons why this bill should not become a law.

The bill is unjust because it imposes useless and heavy burdens upon the tax payers of the State. At a very low estimate it will cost every qualified elector of the State two dollars—loss of time and expenditure of money—to have his name recorded in the Great Register. Multiply this by the number of voters in the State—one hundred and twenty thousand—and we have the enormous sum of two hundred and forty thousand dollars for registry alone. Assuming that it will cost each county in the State two thousand dollars for printing and furnishing the necessary books, with the necessary copies of registry, and additional expenses for Clerks and Boards of Election, making in the aggregate over three hundred thousand dollars to register the present vote of the State of California.

Again, the bill provides in section six that "no person having been an alien, and claiming to have been naturalized, shall be entitled to be registered in the Great Register, unless he shall prove to the satisfaction of the County Clerk and the County Judge that he has resided in the United States five years, and in this State one year at least next preceding his application to be registered." We hold that this section is in direct violation of Article II, section one, of the Constitution of the State of California, which reads as follows:

"Every white male citizen of the United States, and every white male citizen of Mexico, who shall have elected to become a citizen of the United States under the treaty of peace exchanged and ratified at Queretaro, on the thirtieth day of May, eighteen hundred and forty-eight, of the age of twenty-one years, who shall have been a resident of the State six months next preceding the election, and the county or district in which he claims his vote thirty days, shall be entitled to vote at all elections which are now or hereafter may be authorized by law."

The Constitution of this State only requires a residence of six months to entitle the citizen to the right of suffrage, while the Act now pending requires a residence of one year. We believe this provision to be in direct violation of the Constitution.

Entertaining these convictions, we are necessarily compelled to submit a minority report, recommending that the bill do not pass.

All of which is most respectfully submitted.

LUTTRELL.
GOODWIN,
LUPTON.

MINORITY REPORT

OF THE

SAN FRANCISCO DELEGATION

IN THE ASSEMBLY, RELATIVE TO

ASSEMBLY BILL No. 363,

AN ACT TO REGULATE THE RATES OF FARE ON CERTAIN STREET RAILROADS
IN THE CITY AND COUNTY OF SAN FRANCISCO.

REPORT.

SACRAMENTO CITY, March 3d, 1866.

Mr. SPEAKER :—The undersigned members of the San Francisco Delegation, beg leave to submit the following report on Assembly bill No. 368, an Act to regulate the rates of fare on certain street railroads in the City and County of San Francisco :

The question of the raise of fare on the city railroads has created much attention, and expression of universal opposition to the proposed increase.

When these franchises were granted, it will be remembered that numerous applicants prayed for these coveted privileges ; that efforts of no ordinary character were made to place the disposition and control of them in the Board of Supervisors ; but such were the influences brought to bear, that the public interests were sacrificed to private gain. The award of the franchises was not made to the lowest bidder, but favored parties were permitted to amend their bids, to prevent the franchise falling into the hands of the public. They now for the second time appear before the Legislature asking for an increase of fare, based upon the plea that they have been running at a loss. The best proof that can be adduced against this argument, is the fact that the stocks of all these companies are now at a premium. If the advance asked for is granted, it will cause a great hardship to the laboring classes living in the suburbs of the city.

We further represent that all the statements in the case are *ex parte*—the people not being represented, while the railroad companies having combined, have numerous influential agents here urging their claims.

It will be remembered that the same subject was before the Legislature two years ago. A committee was then appointed from the San Francisco Delegation, who examined the books and all the minutia connected with the business of the several companies. That committee reported against *any* increase of fares, and the Legislature indorsed that action. We desired to make a similar examination this session, and asked the privilege of going to San Francisco at our own expense for that purpose, but were overruled, and the privilege denied us by a majority of the delegation, for reasons best known to themselves.

It must be apparent to all that if a necessity for a raise of fare did not exist two years ago, it certainly does not now. At that time feed of all kinds, labor, horses, etc., were much higher than at present.

We have at the present time before us numerous applications for new roads, and extensions of former grants; and it is surprising that parties would desire to invest in a losing business. Horse railroads, it is believed, can be operated at a less expense in San Francisco than any of the eastern cities, in consequence of not having to contend with snow and frost, as at the east. It is a well known fact that every spring almost the entire track in eastern cities has to be relaid from the causes stated; and, while it is true we pay more for labor than in the east, but feed and the depreciation of track will more than compensate for the difference in wages. All statistics show that the business of horse railroads is of steady and increasing importance, and that the enterprise has so far unquestionably been successful; the investments have yielded large and regularly paid dividends. Railroads are often built, not with a view of making money by carrying passengers, but to increase the value of property along the line of the road and at the terminus; and we contend that the public ought not to be taxed for unnecessary roads, built for purely speculative purposes. For example: there are three parallel roads now in operation to the Mission, when one is all the public convenience requires; and we contend that the public have rights which cannot be ignored.

We hope no hasty action will be taken in this matter, as we are reliably informed that the public of San Francisco are getting up petitions against the proposed raise of fare, and earnestly desire to be heard on the subject.

In view of all the facts in the case, we earnestly recommend the indefinite postponement of the above bill.

BOWMAN,
DWYER,
DODGE,
TUBBS,
CLAYTON,
DUTTON.

MINORITY REPORT

OF THE

Assembly Committee on Federal Relations

RECOMMENDING THE ADOPTION OF A

SUBSTITUTE FOR ASSEMBLY CONCURRENT RESOLUTION No. 58,

APPROVING THE ACTION OF THE MAJORITY OF THE UNITED STATES SENATE
IN REFUSING TO SANCTION THE PRESIDENT'S VETO OF THE FREED-
MAN'S BUREAU BILL, AND APPROVING THE VOTE OF THE
HONORABLE JOHN CONNESS ON THE SAME.

REPORT.

Mr. SPEAKER:—The Committee on Federal Relations, to whom the concurrent resolutions in regard to the President's veto of the Freedmen's Bureau Bill was referred, have had the same under consideration, and the undersigned, a minority of said committee, begs leave respectfully to report that he believes said resolutions should be so amended as to indorse the veto of the President, or be indefinitely postponed.

It will be remembered that a majority of the members of Congress were elected while the country was actively engaged in a great civil war, when the most radical political elements of our country were likely, from the condition of affairs then existing, to predominate. The Union being now restored, our country entirely at peace, with a Chief Magistrate whose extreme attachment to the Union is so well known, and has been so thoroughly proved, the undersigned believes it to be not only unsafe, but extremely dangerous for the Legislature of this State to rush with such precipitancy to the unqualified condemnation of our President. He believes that the present condition of public affairs requires the utmost calmness of consideration, free from party prejudices, and with the sole view of restoring to our once happy and united country, those fraternal relations and conditions of society in the Southern States, and throughout the Union, which are so necessary to our happiness and prosperity as a nation and people. The undersigned believes that President Andrew Johnson is actuated by no other motive; and as we believe he has a thorough appreciation of the condition of public affairs, and a full knowledge of the necessities of the nation, the undersigned thinks that we would be recreant to our duties as good citizens to condemn him and his executive action at the present time; and that instead of such condemnation, that this Legislature and State should extend to him the most cordial and sincere support in this hour of trial, in contending with the radical elements now struggling for supremacy in our Government, and in his effort to restore to the nation the happy and prosperous condition so much to be desired by all good and loyal citizens.

The undersigned therefore recommends the adoption of the following resolutions as a substitute:

Resolved, By the Assembly, the Senate concurring, that we do most heartily indorse President Johnson's recent veto of the Freedmen's Bureau Bill, and his expressed views in relation to his restoration policy.

Resolved, That the Governor be requested to forward a copy of the foregoing resolution to his excellency President Andrew Johnson.

Respectfully submitted.

LUPTON, of Committee.

MINORITY REPORT

OF THE

Assembly Committee on State Library

ON

SENATE BILL NO. 42 AND ASSEMBLY BILL NO. 261.

It must be apparent to all that if a necessity for a raise of fare did not exist two years ago, it certainly does not now. At that time feed of all kinds, labor, horses, etc., were much higher than at present.

We have at the present time before us numerous applications for new roads, and extensions of former grants; and it is surprising that parties would desire to invest in a losing business. Horse railroads, it is believed, can be operated at a less expense in San Francisco than any of the eastern cities, in consequence of not having to contend with snow and frost, as at the east. It is a well known fact that every spring almost the entire track in eastern cities has to be relaid from the causes stated; and, while it is true we pay more for labor than in the east, but feed and the depreciation of track will more than compensate for the difference in wages. All statistics show that the business of horse railroads is of steady and increasing importance, and that the enterprise has so far unquestionably been successful; the investments have yielded large and regularly paid dividends. Railroads are often built, not with a view of making money by carrying passengers, but to increase the value of property along the line of the road and at the terminus; and we contend that the public ought not to be taxed for unnecessary roads, built for purely speculative purposes. For example: there are three parallel roads now in operation to the Mission, when one is all the public convenience requires; and we contend that the public have rights which cannot be ignored.

We hope no hasty action will be taken in this matter, as we are reliably informed that the public of San Francisco are getting up petitions against the proposed raise of fare, and earnestly desire to be heard on the subject.

In view of all the facts in the case, we earnestly recommend the indefinite postponement of the above bill.

BOWMAN,
DWYER,
DODGE,
TUBBS,
CLAYTON,
DUTTON.

MINORITY REPORT

OF THE

Assembly Committee on Federal Relations

RECOMMENDING THE ADOPTION OF A

SUBSTITUTE FOR ASSEMBLY CONCURRENT RESOLUTION No. 58,

APPROVING THE ACTION OF THE MAJORITY OF THE UNITED STATES SENATE
IN REFUSING TO SANCTION THE PRESIDENT'S VETO OF THE FREED-
MAN'S BUREAU BILL, AND APPROVING THE VOTE OF THE
HONORABLE JOHN CONNESS ON THE SAME.

O. M. CLAYES.....STATE PRINTER.

REPORT.

Mr. SPEAKER:—The Committee on Federal Relations, to whom the concurrent resolutions in regard to the President's veto of the Freedmen's Bureau Bill was referred, have had the same under consideration, and the undersigned, a minority of said committee, begs leave respectfully to report that he believes said resolutions should be so amended as to indorse the veto of the President, or be indefinitely postponed.

It will be remembered that a majority of the members of Congress were elected while the country was actively engaged in a great civil war, when the most radical political elements of our country were likely, from the condition of affairs then existing, to predominate. The Union being now restored, our country entirely at peace, with a Chief Magistrate whose extreme attachment to the Union is so well known, and has been so thoroughly proved, the undersigned believes it to be not only unsafe, but extremely dangerous for the Legislature of this State to rush with such precipitancy to the unqualified condemnation of our President. He believes that the present condition of public affairs requires the utmost calmness of consideration, free from party prejudices, and with the sole view of restoring to our once happy and united country, those fraternal relations and conditions of society in the Southern States, and throughout the Union, which are so necessary to our happiness and prosperity as a nation and people. The undersigned believes that President Andrew Johnson is actuated by no other motive; and as we believe he has a thorough appreciation of the condition of public affairs, and a full knowledge of the necessities of the nation, the undersigned thinks that we would be recreant to our duties as good citizens to condemn him and his executive action at the present time; and that instead of such condemnation, that this Legislature and State should extend to him the most cordial and sincere support in this hour of trial, in contending with the radical elements now struggling for supremacy in our Government, and in his effort to restore to the nation the happy and prosperous condition so much to be desired by all good and loyal citizens.

The undersigned therefore recommends the adoption of the following resolutions as a substitute:

Resolved, By the Assembly, the Senate concurring, that we do most heartily indorse President Johnson's recent veto of the Freedmen's Bureau Bill, and his expressed views in relation to his restoration policy.

Resolved, That the Governor be requested to forward a copy of the foregoing resolution to his excellency President Andrew Johnson.

Respectfully submitted.

LUPTON, of Committee.

MINORITY REPORT

OF THE

Assembly Committee on State Library

ON

SENATE BILL NO. 42 AND ASSEMBLY BILL NO. 261.

REPORT.

MR. SPEAKER:—The undersigned, a minority of the Committee on State Library, begs leave respectfully to submit the following report:

The committee have had under consideration two bills—Senate bill No. 42, and Assembly bill No. 261. One proposes to change the present law, amending the first section by naming other Trustees—these Trustees to elect a Librarian. The other proposes to pass a new Act, naming the same Trustees, but providing for the election of Librarian by a Joint Convention of this Legislature.

The undersigned, a minority of the committee, would respectfully recommend the passage of the latter bill, (Assembly bill No. 261,) for the following reasons, to wit:

The Library is peculiarly the property of the State. A large revenue is devoted to its support. The value of the property is about one hundred thousand dollars; therefore the representatives of the people should directly select the person to take charge of such property. The Legislature is as competent to choose a Librarian as it is to select proper persons for Trustees; why should it not do so directly, by passing Assembly bill No. 261, instead of indirectly, as proposed by Senate bill No. 42? The Trustees are supposed to be selected because of their literary attainments—their love of books. They are placed in a purely honorary position. Their duties should be the selection of books, and prescribing the manner of conducting the affairs of the Library, and seeing that the law and the rules they lay down are properly carried into effect.

The Librarian should not be the creature of the Board of Trustees; neither should any Librarian obtain office because of the personal or political friendship of the Trustees. The Trustees would be apt to look leniently on the shortcomings of a Librarian of their own choosing; and a Librarian owing his position to the Trustees would be silent as to inefficiency, incompetency, or inattention to duty of any member of the Board. No Board of Trustees should be pledged to support any particular person for Librarian. There are probably as competent persons in various parts of the State for the position of Librarian as any thus far named as candidates for the office. Any member of the Legislature should have the right to propose the name of any competent person for that position, and vote *directly* for him if he deems proper so to do. The merits of all the candidates could be fully and fairly discussed, and if

any one of them possesses superior qualifications, he will have the advantage of that fact being known.

There is no valid reason why the Board of Trustees should not also be elected in Joint Convention. It has been urged that a Librarian should be retained in office because many persons keep such positions in other countries during good behavior; but all officers in most other countries are kept in their places as long as they conduct themselves properly. In this country the genius and spirit of its institutions require rotation in office. Why not, on the same principle, retain in office during life, or good behavior, a Governor, Attorney-General, Controller, Judge, County Clerk, Sheriff, Auditor, or other officers, whose duties are more onerous and intricate than those of any Librarian?

The Legislature acting directly in the matter, would have the effect of stopping all intrigue with the Trustees, and they would be chosen with an eye single to their fitness and usefulness, and not because they happen to be the adherents of any particular person. The argument that the Librarian of the State of California must necessarily be in that office a year before he can understand his duties, or render himself fully efficient, or know where the books are kept, is fallacious. Such an argument might hold good in such Libraries as that of the British Museum, where many miles of shelves are filled with books, or the Imperial Library in Paris—one of the largest and most select in the world, containing works on every subject, and in every language—or in other large European Libraries which are famed more for rare works in different languages than for the number of books contained in them. In those Libraries the Librarian is chosen for his erudition, and for his knowledge of several languages, and not at all because of his knowing where *all* the books are kept—that being the duty of his subordinates—for it is supposed that any one possessed of order in a moderate degree, and having a passable memory, would in a short time become thoroughly conversant with the purely mechanical duty of keeping the books in their proper places and knowing where to find them.

According to the report of the Trustees, there is in the Library something over twenty thousand volumes. Any intelligent man can in a month or six weeks know where every book is kept. If the argument has force that only *one man* in this State is fitted for Librarian, and his fitness arises only from his previous occupancy of the office, it serves to show that the system of classifying the books, and their arrangement on the shelves, is either intentionally complicated and defective, or there is natural inability to originate a proper system, and that the time has arrived when a Librarian should be elected who could devise a system of classification and arrangement of books so that in the event of death or absence a new occupant could carry on the duties.

Therefore the undersigned would respectfully recommend the adoption of Assembly bill No. 261, and also recommend its passage.

HOAG.